

ZGODOVINA GORIČANSKE PAPIRNICE



GORIČANE

ZGODOVINSKA MONOGRAFIJA
Zgodovina goričanske papirnice

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PAPIR, BOGASTVO TISOČLETIJ



ANDRAŽ STEGU
generalni direktor

Papir je dosti več od predelanega in obdelanega kosa celuloze. Papir je temelj razvoja civilizacij, razlog za veselje vseh papirničarjev, nekaj, po čemer podrsa roka prav vsakega zemljana in zgodovina razvoja podjetništva v malem.

Ta zgodovinska monografija, ki jo držite v rokah, delo našega nekdanjega sodelavca Darka Cafute, je predvsem zgodba o razvoju papirniške industrije v Sloveniji in seveda predvsem zgodba o dramatičnih podjetniških in lastniških obratih v dolgi zgodovini tega, čemur danes rečemo Goričane, tovarna papirja Medvode. Zgodba se ovija predvsem okoli tehnoloških premikov in investicij podobno, kot se papir na papirnem stroju ovija okoli valjev. In prav je tako, saj je papir, kolikor uporabniku predstavlja nekaj najbolj samoumevnega in preprostega, v resnici rezultat izjemno kompleksnega tehnološkega in poslovnega procesa.

Zgodovinski prikaz Darka Cafute nazorno prikazuje soodvisnost tehnoloških izboljšav s sposobnostjo upravljanja celotnega poslovnega procesa. Prikazuje soodvisnost tehnologije in upravljanja s tistem delom, na katerega niti eden niti drugi nimata skoraj nobenega vpliva, odvisnost od globalnih družbenih sprememb. Če so prve razvojne premike nekdanjih Goričan poganjale tehnološke zahteve industrializacije in ovirale kapitalske sposobnosti okolja, pa niti prva svetovna vojna niti velika gospodarska kriza dvajsetega stoletja, niti druga svetovna vojna in seveda

niti osamosvojitve Slovenije niso bili dogodki, na katere bi lahko tedanja vodstva Goričan imela vpliv. Taka je pač usoda podjetništva. Trudimo se uvajati konkurenčno tehnologijo, skušamo prehiteti konkurente, predvidevati potrebe trga in tehnološke spremembe, vendar vedno obstaja nekaj v okolju, na kar nimamo vpliva in kar preprosto moramo sprejeti kot dejstvo, in se mu prilagoditi kolikor je pač mogoče.

Tisti, ki vodimo gospodarske družbe smo po definiciji usmerjeni naprej. Noben uspeh preteklosti namreč ni zagotovilo za uspeh naslednjega koraka in nobena napaka preteklosti, ki smo jo preživeli, ne onemogoča uspešnih odločitev danes in jutri. Ne glede na to, da torej podjetniki ne gledamo nazaj, pa je več kot koristno razumeti, da nismo prvi, ki rešujemo nek določen izziv.

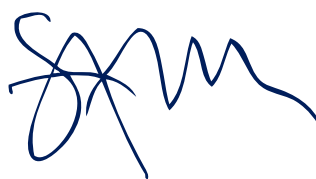
Papirničarji imamo to srečo, da se opiramo na izkušnje vrste predhodnikov tja nazaj do drugega stoletja pred Kristusom. Prvi proces proizvodnje papirja naj bi takrat izumil Cai Lun iz kitajske dinastije Han. Izum se je prek bližnjega vzhoda razširil proti Evropi, kjer smo v 13. stoletju dobili prve vodno gnane papirne mline. Od tod do Gutenberga, katerega izum tiska je pognal potrebe po papirju v

neslutene višave ni več daleč. Papir je z renesanso postal temeljni nosilec prenosa znanja, prenos znanja pa temeljni motor razvoja civilizacij.

Seveda pa zgodba papirja ni niti približno idilična, kar se lepo razbere tudi iz te monografije. Drame so se odvijale tudi v širših okvirih in se zagotovo tudi še bodo. Vsi se spomnimo, kako so napovedovali zaton papirja ob uvajanju računalnikov. Rečeno je bilo, da se bodo potrebe po pisanju na papir zmanjšale, saj se informacije hranijo na računalniških diskih. Te dramatične napovedi se niso niti približno uresničile. Nasprotno. Bolj ko uvajamo računalniško poslovanje, večje količine papirja prihajajo iz vedno večjega števila tiskalnikov. Naslednjo grožnjo naj bi prinašale elektronske knjige in spletni mediji, ki prav v tem obdobju dosegajo nesluteno rast. Pa se vendar na drugi strani pojavljajo analize, ki dovolj jasno nakazujejo, da je memoriranje informacij iz papirja neprimerno boljše od memoriranja tistega, kar preberemo iz elektronskih zaslonov. Zavedati se moramo, da cilj ni papir, ampak človek in njegovo kvalitetnejše preživljanje časa, ki mu je namenjen na tem svetu. Mogoče je preveč smelo reči, da je papir več en, zagotovo pa se ne bo kar jutri uklonil.

Kot direktor družbe Goričane se seveda ne smem zavesti pretiranemu optimizmu. Vsak trenutek moram ocenjevati nevarnosti, ki jih povzročajo konkurenti, tehnološki trendi in spremembe v družbenem okolju. Vendar kot papirničar, ki se zaveda bogate zgodovine papirja, čutim ne le ekonomsko ampak predvsem tudi neopisljivo moč, ki iz tega čudovitega materiala, tako bogatega z zgodovino in zgodbami, prehaja na nas, papirničarje.

Želim vam zanimiv sprehod skozi to monografijo in še mnogo lepih trenutkov s papirjem.

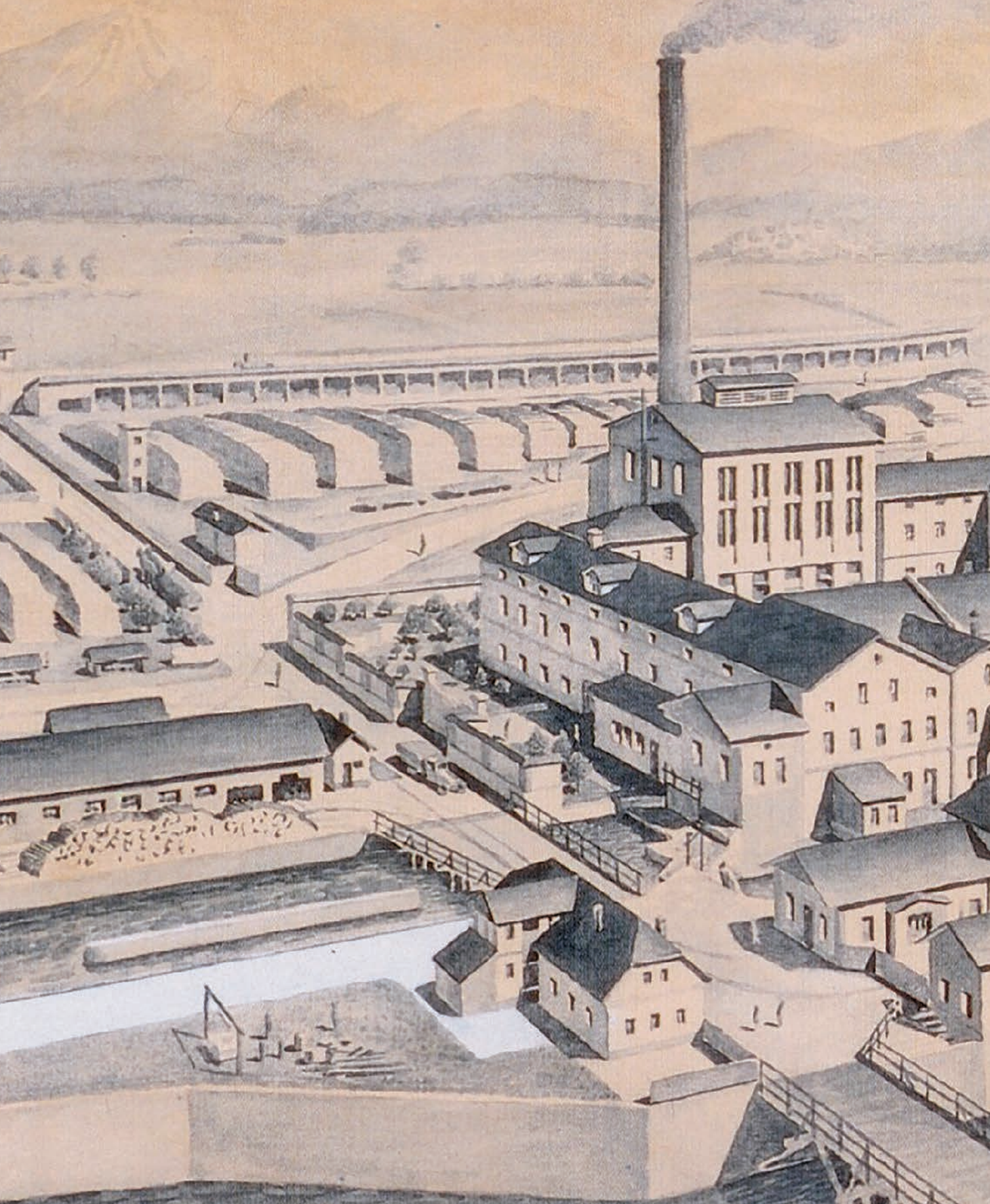


Andraž Stegu,
generalni direktor

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ZGODOVINA GORIČANSKE PAPIRNICE

DARKO CAFUTA

*Na ozemlju sedanje Slovenije
se je papirna obrt razvijala praktično sočasno
z evropsko in prav tako dinamično.*

*Tovarna celuloze in tovarna pinotana Goričane leta 1933
(J. Karlovšek)*

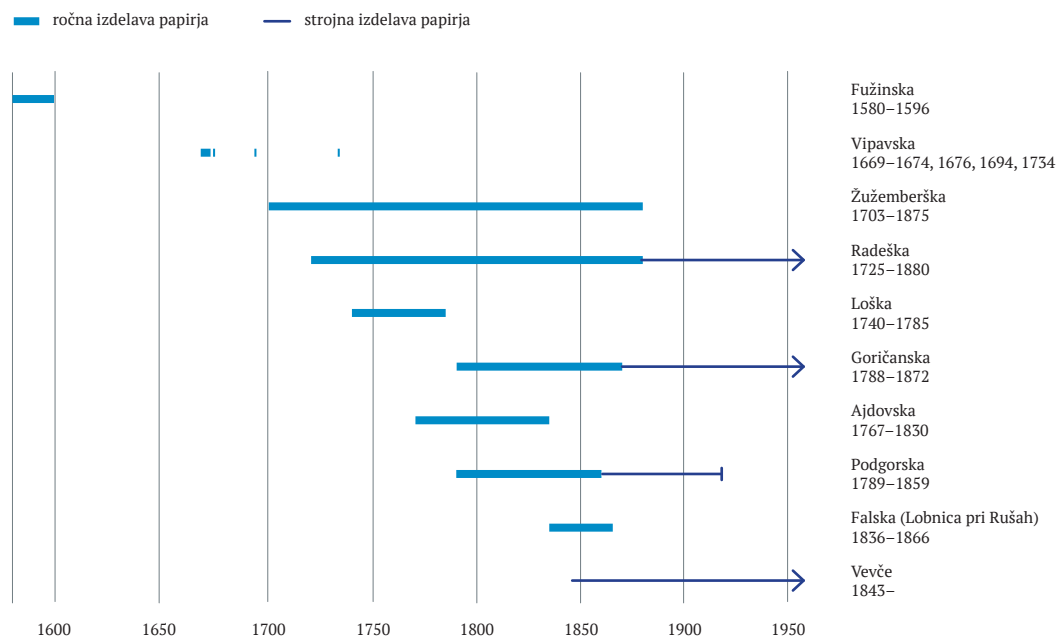
ZGODOVINA PAPIRNIC Z ROČNO IZDELAVO PAPIRJA NA OBMOČJU SLOVENIJE

Od prvih osmih papirnic na našem ozemlju, v katerih so ročno izdelovali papir, sta se do danes obdržali le goričanska in radeška. Nekatere od propadlih papirnic so obratovale le kratek čas. Najstarejša papirnica

na slovenskem, fužinska papirnica v Zgornji Hrušici pod Ljubljano je na primer delovala le šestnajst let, od leta 1580 do leta 1596. V drugi polovici sedemnajstega stoletja je nekaj desetletij delovala vipavska papirnica ob Hublju nad Ajdovščino. Žužemberška papirnica je obratovala od leta 1701 pa do 1870, ko je propadla zaradi premočne konkurence strojne izdelave papirja. Radeška papirnica v Njivicah pri Radečah je začela delovati okoli leta 1725 in je kmalu spoznala nujo sprememb, tako da se je leta 1854 razvila v strojno papirnico.⁽¹⁾

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PAPIRNICA GORIČANE



Prikaz prehoda papirnic z ročno izdelavo papirja v strojne papirnice.

Loška papirnica v vasi Papirnica pri Škofji Loki

Goričanska papirnica ima svoj izvor v loški papirnici, ki je bila ustanovljena leta 1740 v današnji vasi Papirnica pri Škofji Loki. Papirnica je bila zgrajena nedaleč od izvira potoka, ki se je takrat imenoval Mrzli potok.⁽²⁾ Tam je delovala do leta 1785. Potok je lahko poganjal le eno vodno kolo, ki je imelo premajhno moč, da bi omogočilo povečanje proizvodnje, kar je bila želja tedanjega lastnika Johana Schwererja. Odločitev lastnika leta 1785 po povečanju je torej terjala preselitev proizvodnje.

Goričanska papirnica v vasi Ladja

Papirničar Schwerer je našel mesto za novo papirnico ob že obstoječem jezu mlina za žito ob Sori pod Goričanami.⁽⁵⁾ Papirnico je začel graditi na levem bregu Sore v bližini vasi Ladja. Gradil jo je do leta 1787, potem pa mu je zmanjkalo denarja za dokončanje, predvsem za opremo papirnice s papirničarskimi napravami. Na srečo je v Ljubljani našel veletrgovca Antona Domiana, ki je v goričanski papirnici prepoznal poslovno priložnost. Leta 1788 je na podlagi dodatne investicije delo v papirnici steklo, Domianu pa je Schwerer vračal dolg z dobavo papirja, ki ga je ta prodajal v svoji veletrgovini. Taka vertikalna povezava se je izkazala za uspešno.

Zgodovina drugih papirnic z ročno izdelavo na Slovenskem

V tem času je na Slovenskem obratovala še ena papirnica. Na Goriškem je Tomaž Kumar leta 1767 v Ajdovščini postavil pravicato manufakturo, ki je že leta 1769 v velikih količinah izdelovala dvanajst vrst papirja in kmalu postala ena izmed najmočnejših papirnic v Notranji Avstriji. Tržišče goričanske papirnice je bilo v glavnem nekdanja Kranjska, nekaj pa je izvažala tudi na Štajersko.

Približno istočasno kot goričanska papirnica pa je ob Soči začela obratovati tudi papirnica v Podgori pri Gorici, ki sicer ni na območju današnje Slovenije, a je bila v času delovanja vključena v slovenski prostor in je še danes prostor slovenske manjšine v Italiji.

Zadnja papirnica z ročno izdelavo papirja, ki je začela delovati, ko so v avstrijskih deželah že začeli postavljati papirne stroje, je bila falska papirnica v Lobnici pri Rušah. Leta 1836 jo je postavil mariborski advokat dr. Hartnagel. Po njegovi smrti leta 1838 je papirnica še tri desetletja životarila, potem pa propadla, saj ni mogla vzdržati hude konkurence strojnih papirnic.

ZGODOVINA GORIČANSKE PAPIRNICE NA NAČRTIH

Najstarejši načrt, na katerem je vrisana goričanska papirnica: vojaški načrt iz leta 1787

Papirnica (Papier Mühle) je na levem bregu Sore pod vasjo Ladja. Zgradba papirnice leta 1787 že stoji, ni pa še opremljena z napravami za izdelavo papirja. Vojaški mapejri nam niso zapustili zapisa ali je papirnica že bila dokončana in v obratovanju. Zapisali so le, da sta mlin za žito na desni strani Sore in papirnica na levem bregu zidana objekta.

*Izsek iz mape vojaškega mapiranja
notranjeavstrijskih dežel (1785–1787)*

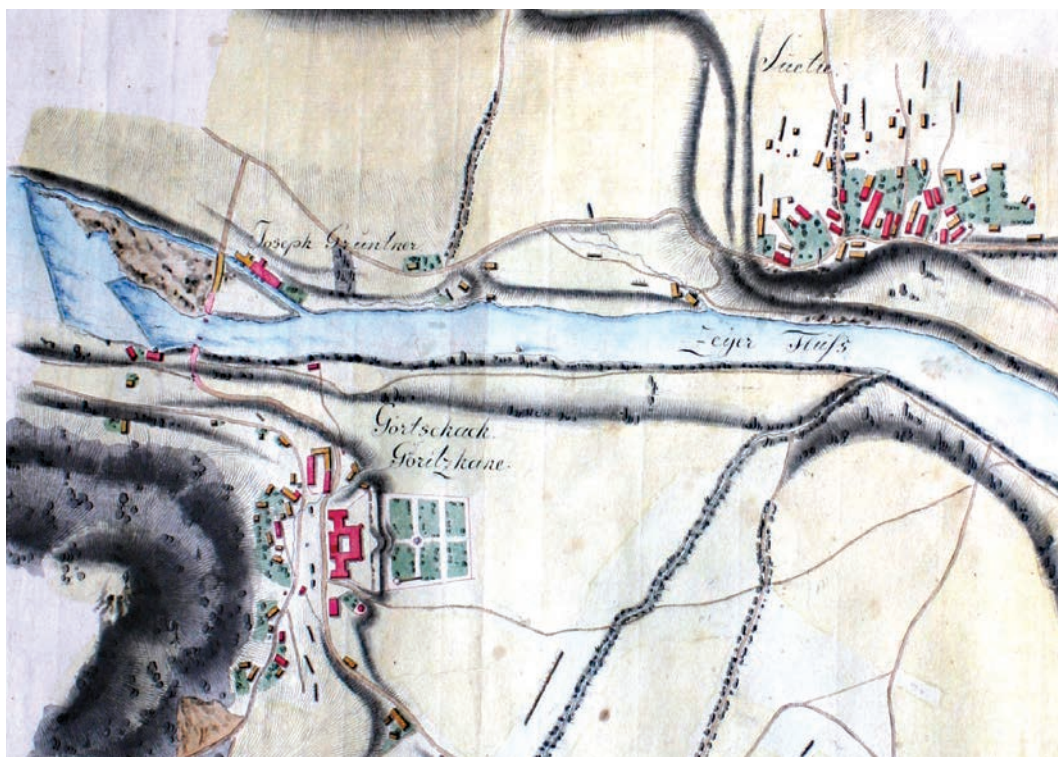


60 let papirničarske družine Grundner

Leta 1800 je papirnico prevzela družina Grundner in njena lastnica ostala do leta 1863. Do leta 1829 je papirnico vodil Jožef Grundner, od takrat dalje pa Werner Grundner. Leta 1844 je bila goričanska papirnica že moderno opremljena manufaktura, v kateri je bilo zaposlenih 27 delavcev.

Iz leta 1809 se je ohranil načrt porečja Sore, kjer je vrisana Grundnerjeva papirnica.

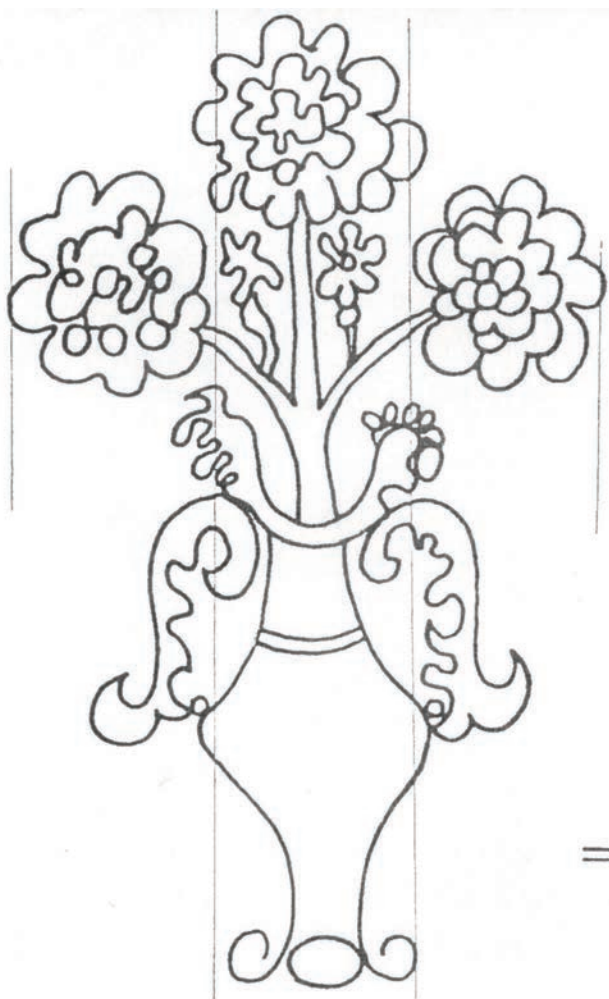
*Porečje reke Save (vključno z delom Sore):
Scherowitz/Žerovic 1807: pri papirnici piše:
Joseph Gruntner; Grad Goričane (Görtschach,
Goritzhane); reka Sora (Zeijer Fluss)*



VODNI ZNAKI GORIČANSKE PAPIRNICE

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PAPIRNICA GORIČANE



[right]
= A.D.

Do sedaj najstarejši objavljen vodni znak goričanske papirnice

Do sedaj najstarejši objavljen vodni znak goričanske papirnice je uvrščen v zbirko vodnih znakov bivše Avstro-ogrske monarhije v knjigi z naslovom »The ancient Paper-Mills of former Austro-Hungarian Empire and their Watermarks«. Knjigo je napisal Georg Eineder, izšla pa je leta 1960 v Hilversumu na Nizozemskem.

Dokument iz leta 1799 na papirju iz goričanske papirnice s tem vodnim znakom je bil poslan iz Goričan na Dunaj in se hrani v arhivu Dvorne komore na Dunaju. Vodni znak »roža v vazi« ima na desnem delu papirnega lista inicialke A.D., ki so inicialke Antona Domiana, ljubljanskega veletrgovca, ki je investiral denar v nakup papirniške opreme.

Te vodne znake goričanske papirnice je zbral Dr. Jože Šorn in objavil v Zgodovinskem časopisu 1958–1959.

Vodni znaki so iz časa papirničarskega mojstra Jožefa Grundnerja, ki je bil lastnik goričanske papirnice od 1800 do 1829, razen na sliki 5: Goertschach = Goričane, ki je nastal v času papirničarskega mojstra Wernerja Grundnerja (1829–1863).



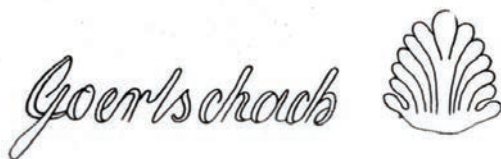
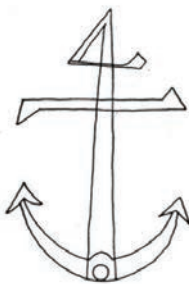
Sl. 2



Sl. 3



Sl. 4



Sl. 5

Sl. 2. Vodni znak Jožefa Grundnerja. Prvič sem ga opazil v spisu z datumom 5. novembra 1806, drugič v spisu z datumom 7. novembra 1817. Prikazuje varianto sidra (simbol upanja) z začetnicama I.G. ali J.G. točno v sredini pole. Prav prvi datum mi je za sedaj terminus ante quem za Jožefovo lastništvo mlina in za lastništvo Grundnerjev sploh. Primer, kako nam prav datum dokumenta in vodni znak pomagata »odkriti« kak mlin za papir! (Podoben primer se mi je pojavil pri Pankracovem ali protestantskem mlinu za papir. Tudi takrat sem z istima pomagaloma — datumom in vodnim znakom — ugotovil kot začetek proizvodnje leto 1579.) — Sl. 3. Vodni znak Jožefa Grundnerja iz leta 1825. V sredini pole sta na ščitcu začetnici J.G. — Sl. 4. Vodni znak Jožefa Grundnerja iz leta 1827. Na levi polovici pole v sredini varianta sidra, na desni polovici pole v sredini začetnici J.G. — Sl. 5. Vodni znak goričanskega mlina za papir iz leta 1838. V sredini leve polovice pole ime Goričan, v sredini desne polovice pole školjka. Ker ni začetnic imena in priimka, ne vem, če pripadata vodni znak in mlin še Jožefu ali že Wernerju Grundnerju

STROJNA IZDELAVA PAPIRJA, PROIZVODNJA LESOVINE IN CELULOZE

Leta 1843 je iz papirnega stroja v novoustanovljeni tovarni papirja v Vevčah prišel prvi papir. Tedanjim papirnicam z ročno izdelavo papirja je postalo jasno, da se morajo opremiti s papirnim strojem ali pa bodo propadle. Tako je na primer radeški papirnici leta 1854 uspelo postaviti enostaven papirni stroj brez sušilne skupine, kar pa je bila le polovična rešitev.

V Goričanah je vodenje papirnice leta 1860 prevzel Stanislav Grundner. Že leta 1860 je bila papirnica v dolgovi, ki so v naslednjih letih samo še naraščali. Leta 1863 je tako goričanska papirnica bankrotirala in je šla kot taka na licitacijo. Za lastnike vevške papirnice jo je kupil Fidelis Terpinc. Pod novim lastništvom je delovala naprej.

Pomembno za prihodnost je bilo, da so v Goričanah leta 1890 ustanovili tovarno celuloze, ki je celulozo proizvajala po Ritter – Kellnerjevem postopku. Podatek je pomemben ne le zaradi tehnološke inovacije, ampak tudi zato, ker je

delovala na podlagi te tehnologije vse do leta 1992, ko je prenehala izdelovati celulozo. 102 leti neprekinjenega delovanja torej.

Ritter – Kellnerjev postopek sta izumila baron Ritter von Zahony in kemik Karl Kellner v papirnici Podgora, ki je bila od leta 1859 v lasti Barona Ritterja. Ta strojna papirnica je s to inovacijo zaslovela po celem svetu. Temelji na postopku kuhanja celuloze po sulfitnem postopku z direktnim ogrevanjem s paro. Postopek je bil tako uspešen, da sta izumitelja leta 1883 prejela »privilegij«, kakor se je takrat imenoval patent, za izdelovanje sulfitne celuloze. Papirnica v Podgori je delovala vse do prve svetovne vojne, ko je bila uničena.

GORIČANSKA PAPIRNICA POSTANE OBRAT VEVŠKE PAPIRNICE

Stanislav Grundner je po tem, ko je goričansko papirnico prevzela vevška papirnica, ostal vodja goričanskega obrata ročne izdelave, ki pa je leta 1865 pogorel. Ker pa je bila papirnica dobro zavarovana, so lahko še isto leto začeli graditi novo tovarno. Podatki govorijo, da je vevška papirnica v svojem obratu v Goričanah izdelovala lesovino že leta 1870.

Fidelis Terpinc je že leta 1858 kupil vodne pravice na reki Savi v Medvodah in na Verju. Leta 1866 je v Medvodah zgradil brusilnico lesa, leta 1868 pa začel z gradnjo brusilnice lesa na Verju. Tako se je leta 1870 proizvajala lesovina v treh obratih: v Goričanah, v Medvodah in na Verju.

Po nakupu Goričanske papirnice je želel Terpinc preosnovati svoje tovarne v delniško družbo, vendar je idejo opustil, saj ni imel naslednikov niti več primernih sodelavcev in vlagateljev.

OBDOBJE PAPIRNE INDUSTRIJE LEYKAM

Vevško papirnico z obrati v Goričanah in Medvodah je leta 1870 kupila papirna industrija Leykam iz avstrijskega Gradca. Po nakupu se je delniška družba preimenovala v: »Leykam-Josefsthal A.G. für Papier und Druckindustrie, Wien«.

Josefsthal je bilo nemško poimenovanje za vevško papirnico. Po pripovedovanju naj bi Terpinc poimenoval papirnico po ženi Jožefini. V slovenščini se je imenovala Jožefov dol.

Delniška družba Leykam, ki je imela ob nakupu 2 milijona goldinarjev kapitala, je kupila Vevško papirnico in obrate v Medvodah, Verju in Goričanah za vsoto 1,300.000 goldinarjev. Polovico vsote je plačala v gotovini, polovico pa v delnicah.

Na prvih delnicah, ki jih je izdala nova delniška družba so našete družbine tovarne, od slovenskih so navedene:

- Zwischenwässern = Medvode
- Janezia = Janezija, papirnica v Vevčah na levem bregu Ljubljaniče v Vevčah
- Virje = Verje pri Medvodah
- Görtshach = Goričane
- Josefsthal = prva papirnica Vevče na desnem bregu Ljubljaniče

Od štajerskih tovarn pa sta navedeni v Gradcu (= Graz) in Gratwein.



Delnica za 200 goldinarjev delniške družbe: »Leykam-Josefsthal A.G. für Papier und Druckindustrie, Wien«

PRVI PAPIRNI STROJ V PAPIRNICI GORIČANE (1872–1931)

Prve podatke o proizvodnji papirja v goričanski papirnici imamo šele za leto 1879, čeprav po drugi strani vemo, da je bil papirni stroj postavljen že leta 1872.

Lesovino so kot surovino uporabljali v vevški in goričanski papirnici, nekaj pa tudi v papirnici na Verju, kjer so papirni stroj postavili leta 1889. Ta papirni stroj je deloval do leta 1910, ko je brusilnica lesa in papirnica na Verju pogorela. Preostanek lesovine so pošiljali v Leykam-ove papirnice v avstrijski Gradec in Podgoro pri Gorici.

Leta 1890 je bilo v brusilnici lesa in papirnici na Verju zaposlenih 70 delavcev, v Medvodah 79, v tovarni papirja in brusilnici lesa v Goričanah pa 163 delavcev.

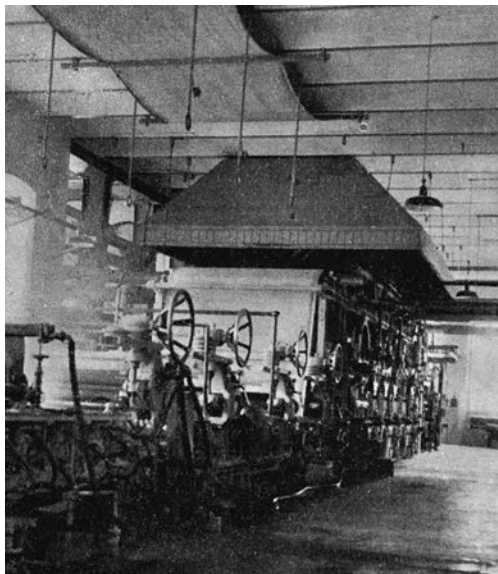
Na žalost ni ohranjene nobene fotografije prvega papirnega stroja »G« v Goričanah. Predstavo na ta stroj nam pomaga obuditi fotografija podobnega papirnega stroja v Vevčah – papirni stroj »J« v Janeziji.

Tehnični podatki o prvem papirnem stroju

Družba Leykam-Josefsthal je že leta 1871 zaprosila okrajno glavarstvo v Ljubljani za dovoljenje za obratovanje brusilnice lesa in proizvodnjo papirja v obratih Medvode in Goričane.

Dovoljenje je dobila 28. februarja 1871.

Iz poročila Trgovske in obrtne zbornice za leto 1870 lahko povzamemo nekaj zanimivih podatkov. Moč vodnih pogonov v Goričanah je bila prek dveh vodnih koles skupaj 160KM. Ti dve kolesi pa sta poganjali dva brusilnika lesa. Za pogon papirnega stroja so tako morali postaviti nov parni kotel in poganjati papirni stroj s parnim strojem.

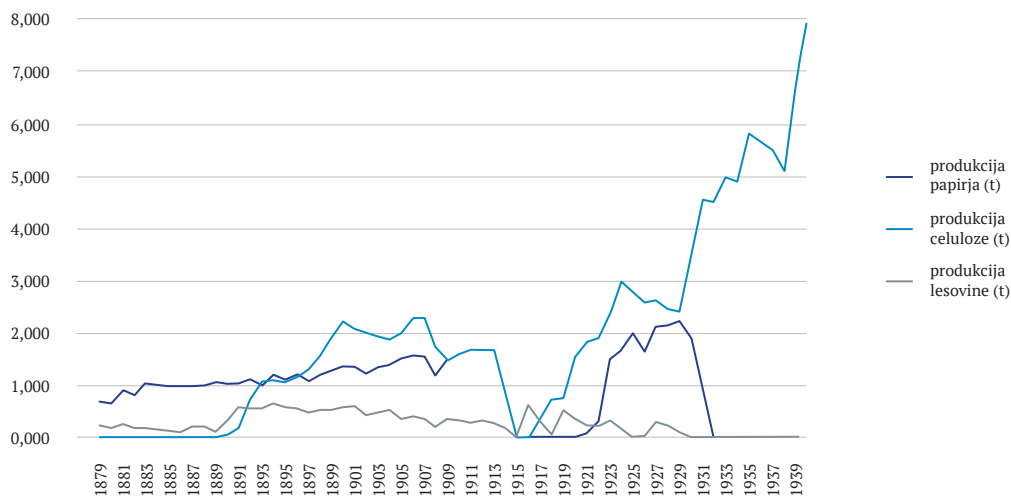


Prve podatke o papirnem stroju v Goričanah imamo šele iz leta 1905. Takrat pa je služila za pogon že nova vodna turbina moči 320 KM, ki so jo vgradili leta 1889 namesto vodnih koles. Turbino je izdelala firma Ganz&Co. iz Budimpešte. Turbina je imela prigrajen dinamo stroj napetosti 100 V in 160 A, ki ga je izdelala firma Siemens-Halske na Dunaju.

Papirni stroj je bil izdelek tovarne strojev v Leobersdorfu na Spodnjem Avstrijskem. Delovna širina papirnega

stroja z vzdolžnim sitom je bila 142 cm. V tovarni je bil tudi stroj za izdelavo lepenke delovne širine 80x100 cm. V tistem času so v Goričanah delovali že trije brusilci lesa.

Leta 1886 so k zgradbi papirnega stroja dogradili še satinirnico in papirno halo ter vgradili nove parne kotle, saj so potrebovali dodatno pogonsko moč za novo postavljene stroje v dodelavi. Leta 1888 so postavili prvi kalander, izdelan v tovarni strojev v Leobersdorfu.



Leta 1905 je papirnica izdelala dnevno okoli 4.000 kg tiskalnih papirjev in papirjev za kuverte, 2.000 kg lesovine in lepenke ter 7.000 kg celuloze. Za papirnico Goričane imamo na voljo podatke o proizvodnji papirja od leta 1879 pa vse do zaustavitve papirnega stroja leta 1931 (glej diagram in tabelo na naslednji strani).

Proizvajni podatki

obratov Vevče, Goričane in Medvode.

Leto	Vevče		Goričane			Medvode	Skupna produkcija papirja
	Produkcija papirja	Produkcija lepenke	Produkcija papirja	Produkcija celuloze	Produkcija lesovine	Produkcija lesovine	
1871	137,1426 vag.	.	.	.	.	.	.
1872	165,1970 "	.	.	.	.	.	.
1873	167,6598 "	.	.	.	.	.	.
1874	170,7696 "	.	(Podatki se niso dali več ugotoviti)			(istotako)	.
1875	173,5220 "	.	.	.	.	.	.
1876	172,3905 "	.	.	.	.	.	.
1877	176,0933 "	.	.	.	.	.	.
1878	186,4991 "	.	.	.	.	.	.
1879	171,9026 "	.	68,0917 vag.	.	22,4749 vag.	.	239,9943 vag.
1880	209,2734 "	.	64,6645 "	.	16,7800 "	.	273,9379 "
1881	228,8516 "	.	89,0120 "	.	25,9874 "	.	317,8636 "
1882	226,5122 "	.	80,7216 "	.	18,1313 "	.	307,2338 "
1883	226,1907 "	.	101,5293 "	.	16,3317 "	.	327,7200 "
1884	223,7590 "	.	100,5027 "	.	15,7455 "	.	324,2617 "
1885	225,9819 "	.	98,4502 "	.	11,5976 "	.	324,4321 "
1886	222,2093 "	.	97,4306 "	.	10,9956 "	.	319,6399 "
1887	228,0712 "	.	96,3450 "	.	20,6397 "	.	324,4162 "
1888	250,3247 "	.	100,5782 "	.	19,8814 "	.	350,9029 "
1889	269,0570 "	.	103,9335 "	(Nova turb. mont.)	11,0261 "	.	372 9905 "
1890	327,0655 "	.	102,0609 "	5,3310 vag.	31,4872 "	.	429,1264 "
1891	362,0380 "	.	102,0595 "	18,7064 "	57,2498 "	.	464,0975 "
1892	376,3379 "	(Stroj za lepenko zgrajen)	109,8978 "	73,5766 "	54,2215 "	.	486,2357 "
1893	381,5289 "	8,9050 vag.	100,6543 "	107,5219 "	56,1190 "	.	482,1832 "
1894	401,8820 "	9,1400 "	118,6566 "	109,1945 "	64,8780 "	.	520,5386 "
1895	254,1160 "	12,0650 "	109,2082 "	105,9900 "	56,8019 "	.	363,3242 "
1896	219,5153 "	.	119,5086 "	114,0300 "	53,7812 "	.	339,0239 "
1897	525,7047 "	3,9650 "	107,8319 "	128,8900 "	47,5400 "	.	633,5366 "
1898	542,1955 "	16,9978 "	119,3934 "	156,9300 "	51,2200 "	.	661,5889 "
1899	604,9701 "	16,1500 "	127,4437 "	189,2800 "	52,9532 "	.	732,4138 "
1900	613,0432 "	7,4769 "	134,0391 "	226,0200 "	58,5000 "	.	747,0823 "
1901	696,6526 "	13,7673 "	134,8310 "	206,1223 "	59,3243 "	.	831,4836 "
1902	737,9926 "	9,0312 "	122,1875 "	200,1141 "	42,4547 "	.	860,1801 "
1903	707,8810 "	11,7093 "	133,7506 "	192,1504 "	48 5544 "	.	841,6316 "
1904	789,7960 "	14,5337 "	140,0431 "	188,0251 "	51,5438 "	.	929,8391 "
1905	812,3636 "	13,1800 "	150,8232 "	199,4099 "	35,8199 "	.	963,1868 "
1906	835,1631 "	16,8562 "	158,2427 "	225,8612 "	39 4572 "	.	993,4058 "
1907	863,3005 "	21,5090 "	153,5833 "	227,2039 "	36,0566 "	.	1016,8838 "
1908	765,0102 "	16,0119 "	118,1663 "	171,1052 "	20,9824 "	100,3000 vag.	883,1765 "

Leto	Vevče		Goričane			Medvode	Skupna produkcija papirja
	Produkcija papirja	Produkcija lepenke	Produkcija papirja	Produkcija celuloze	Produkcija lesovine	Produkcija lesovine	
1909	974,7824 vag.	16,5243 vag.	147,4787 vag.	180,4400 vag.	35,4885 vag.	122,6531 vag.	1122,2611 vag.
1910	891,6107 "	16,5876 "	160,0562 "	213,7972 "	32,9456 "	143,3414 "	1051,6669 "
1911	1049,7715 "	12,4347 "	168,0185 "	182,5779 "	27,2846 "	139,5331 "	1217,7900 "
1912	814,9964 "	9,7145 "	166,8137 "	182,4920 "	33,4324 "	142,9368 "	981,8101 "
1913	853,2845 "	5,3744 "	168,2194 "	192,5836 "	27,1856 "	130,7221 "	1021,5039 "
1914	487,3380 "	6,1735 "	78,2214 "	102,5923 "	18,0568 "	87,0702 "	565,5604 "
1915	184,7251 "	1,0418 "	.	.	9888 "	.	184,7251 "
1916	278,0949 "	.	.	.	61,4965 "	83,0865 "	278,0949 "
1917	174,1645 "	.	.	31,7064 "	28,9317 "	48,4170 "	174,1645 "
1918	259,9299 "	.	.	71,5181 "	4,8629 "	36,5150 "	259,9299 "
1919	398,1885 "	.	.	75,1899 "	53,3482 "	44,7700 "	398,1885 "
1920	556,8112 "	.	.	154,2405 "	34,3573 "	50,4272 "	556,8112 "
1921	445,5725 "	(Nova velebrusil- nica zgrajena)	8,6828 "	181,6515 "	23,2584 "	99,9350 "	454,2553 "
1922	617,1056 "	.	28,9336 "	189,0909 "	21,7569 "	98,8038 "	646,0392 "
1923	702,2356 "	lesovina:	149,1907 "	238,6974 "	31,8732 "	136,1304 "	851,4263 "
1924	778,2883 "	164,9209 vag.	164,5905 "	295,7139 "	17,5230 "	149,4260 "	942,8788 "
1925	860,9474 "	319,3761 "	199,1116 "	278,1696 "	0,2160 "	138,6227 "	1060,0590 "
1926	923,6727 "	311,6471 "	161,8520 "	257,3160 "	1,6418 "	129,1684 "	1085,5247 "
1927	1076,0705 "	231,7967 "	212,9794 "	261,8707 "	28,8217 "	112,9467 "	1289,0499 "
1928	1126,6701 "	249,0569 "	215,5423 "	243,9434 "	23,3280 "	133,8272 "	1342,2124 "
1929	1121,3534 "	232,6979 "	222,6646 "	240,4360 "	9,7800 "	131,6588 "	1344,0180 "
1930	1144,6945 "	368,0038 "	189,9823 "	347,2780 "	—	124,2120 "	1334,6768 "
1931	982,4180 "	203,7423 "	92,7950 "	454,3911 "	—	118,3538 "	1075,2160 "
1932	752,5230 "	153,1681 "	—	449,2424 "	—	89,9153 "	752,5230 "
1933	812,4760 "	158,8878 "	—	497,4000 "	—	81,5964 "	812,4760 "
1934	912,2425 "	193,3805 "	—	489,7000 "	—	84,5794 "	912,2425 "
1935	899,7358 "	148,4186 "	—	582,5000 "	—	94,0888 "	899,7358 "
1936	858,6930 "	154,7296 "	—	566,5000 "	—	46,0301 "	858,6930 "
1937	902,9230 "	193,0812 "	—	549,8000 "	—	—	902,9230 "
1938	756,7670 "	154,7426 "	—	510,1500 "	—	—	756,7670 "
1939	1014,7410 "	239,1951 "	—	609,7000 "	—	—	1014,7410 "
1940	1238,4355 "	379,4190 "	—	791,4000 "	—	—	1238,4355 "

Proizvodnja papirja, lesovine in celuloze od 1878 do 1940.

P r e p i s .

Štev. 580

O B R T N I L I S T .

Tvrdka Združene papirnice d.d., Vevče, Goričane in Medvode so prijavile prost obrt izdelovanja papirja s stojiščem v Goričanah, občina Medvode.

Ker ni nobenega postavnega zadržka, seizda ta obrtni list s pristavkom, da se je radi pridobnine brez odloga zglasiti pri davčnem okrajnem oblastvu v Ljubljani.

Ta obrt je vknjižen pod št. 77/114 v obrtnem registru.

Vsako izpremembo o načinu obratovanja ali preložitve obrta je po § 32. in 39. obrtnega reda takoj sem javiti.

C. kr. okrajno glavarstvo
V Ljubljani, dne 28.februarja 1871.

Podpis-

Štev. I - 2351/29.

Za pravilen prepis
Sresko načelstvo v Ljubljani
dne 7.januarja 1930.

Kolek za Din20.-

L.S. V.z. Verbič l.r.

Kolek za Din 10.-
Ta prepis, kojega je stranka sama preskrbela, se popolnoma ujema z izvornikom pisanim na 1/2 poli in kolekovanim z 20.- Din -- p. Pisarna okrajnega sodišča v Ljubljani dne 11.1.1930.

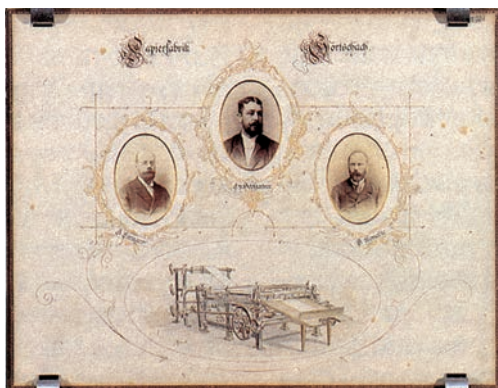
Žig : Okrajno sodišče v Ljubljani

podpis :
nečitljiv

Na voljo pa so tudi podatki o številu zaposlenih v letu 1889. V proizvodnji papirja je bilo zaposlenih 61 moških in 16 žensk, v brusilnici lesa pa 20 moških in dve ženski. Pri pripravi cunj je bil zaposlen en moški in osem žensk, v papirni hali pa trije moški in 31 žensk, torej skupno 142 delavcev.

Med prvo svetovno vojno, že takoj leta 1914, je papirnica Goričane ustavila proizvodnjo papirja in papirni stroj ni deloval vse do leta 1921. Proizvodnja lesovine in celuloze pa je delovala za časa prve svetovne vojne v zmanjšanem obsegu.

Zelo podrobno poročilo Trgovinske in obrtne zbornice v Ljubljani pa imamo na voljo za Goričane za leta od 1912 do 1914. Proizvodni podatki za papir so do kilograma natančni in takšni, kot so podani v zgornjih tabelah, izvemo pa še za vrednost izdelanega papirja v letih 1905, 1911 in 1912. Iz poročila izvemo tudi to, kakšne vrste papirja se je izdelovalo. Za leti 1911 in 1912 imamo na voljo celo vrednost papirja, ki je bil izvožen v evropske dežele, pa tudi v Afriko, severno in južno Ameriko in Indijo, Turčijo in Palestino. Iz vprašalnika izvemo, da so v teh letih izdelovali pisalne in tiskovne papirje vseh vrst, tudi rastriran papir za zvezke.



V letu 1895 izvemo tudi za imena uradnikov, zaposlenih v Goričanah.

Arhiv Leykam

Za izdelavo zgoraj navedenih letnih količin papirja je papirnica porabila okoli 300 ton beljene in okoli 300 ton nebeljene celuloze, okoli 1.000 ton lesovine in okoli 750 kubičnih metrov odpadnega papirja. Iz poročil je razvidno, da so približno eno tretjino celuloze, proizvedene v obratih Goričan, porabili za izdelavo papirja v Goričanah, ostalo celulozo pa so vozili v Vevče. Vso lesovino, ki so jo izdelali v Goričanah, so porabili za izdelavo papirja v Goričanah, manjkajoči del pa so pripeljali iz brusilnice lesa v Medvodah.

Zaradi začetka prve svetovne vojne se je kot rečeno papirni stroj v papirnici Goričane zaustavil 3. avgusta 1914. Surovin za izdelavo papirja je zmanjkalo, osebje pa je odšlo na fronto.

A u f s t e l l u n g .

Ueber die Fakturenwerte für das Jahr 1911 und 1912.

L ä n d e r .

Oestereich	Kr. 235.596.25	Kr. 220.142.90
Ungarn	70.856.48 ✓	53.362.39 ✓
Exporteure v. Oe. & U.	11.465.34 ✓	8.024.29 ✓
B e l g i e n	17.809.15 ✓	50.745.90 ✓
Bulgarien	16.632.05 ✓	.....
Dänemark	.....	2.729.95 ✓
Deutschland	13.186.10 ✓	16.425.65 ✓
Export Griechenland	22.872.79 ✓	17.151.55 ✓
England	51.225.30 ✓	75.869.55 ✓
Italien	.....	653.15 ✓
Holland	9.799.45 ✓	23.114.75 ✓
Norwegen	.....	878.45 ✓
Schweiz	6.261.45 ✓	5.892.50 ✓
Spanien	.....	1.028.35 ✓
Portugal	33.35 ✓	431.70 ✓
Tunis	14.281.75 ✓	9.509.65 ✓
Türkei	77.351.98 ✓	46.238.80 ✓
Palästina	7.871.11 ✓	2.502.52 ✓
Egypten	23.981.10 ✓	23.187.00 ✓
S. Amerika	4.944.85 ✓	7.456.10 ✓
N. Amerika	.....	4.417.75 ✓
Indien	53.511.80 ✓	52.950.90 ✓
Marokko	.....	32.05 ✓
	-----	-----
Kronen	637.680.30	622.745.85
	*****	*****

Združene papirnice Vevče, Goričane in Medvode po prvi vojni

Po končani prvi svetovni vojni se je po nastanku kraljevine SHS odredil državni nadzor nad slovenskimi obrati družbe »Leykam-Josefsthal A.G«, ki je bila nazadnje prisiljena prodati vse slovenske obrate novo nastali družbi. Ministrstvo za trgovino in industrijo v Beogradu je izdalo 18. februarja koncesijo za ustanovitev nove družbe »Združene papirnice Vevče, Goričane in Medvode d.d. v Ljubljani«. Od firme Leykam-Josefsthal A.G. so bili vsi obrati odkupljeni 31. decembra 1919 za 20 milijonov kron (od tega 12 milijonov v gotovini in 8 milijonov v akcijah nove družbe). S tem nakupom je podjetje prišlo v večinsko last domačega kapitala. Nastala je nova slovenska delniška družba z imenom »Združene papirnice Vevče, Goričane in Medvode d.d.«.

Goričane torej niso proizvajale papirja od avgusta 1914 do 1. decembra 1921, ko se je zopet začelo s proizvodnjo strojno gladkega papirja. Upravi je uspelo v svoje vrste privabiti domačega strokovnjaka Antona Lapajna, bivšega ravnatelja celulozne tovarne v Rebrcah na Koroškem. 1. novembra 1921 je nastopil novo službo ter izjemno hitro izvedel vsa pripravljala dela, da je potem lahko v roku enega meseca

tovarna pričela s proizvodnjo za trg. Vendar je pri oceni trga očitno prišlo do napačne ocene. Zaradi pomanjkanja naročil so morali papirni stroj že 22. marca 1922 ustaviti. Zanimivo je, da so samo dan pred tem, torej 21. marca 1922, v Goričanah predali v promet industrijski tir, ki so ga takrat imenovali »dovlačilnica«.

Da bi lahko papirni stroj v Goričanah obratoval naprej, se je uprava 28. marca 1922 odločila preurediti papirni stroj v takega za proizvodnjo »superior« papirja, to je enostransko glajenega papirja.

Papirni stroj je od leta 1922 naprej doživel pogoste predelave, nadgradnje in prilagoditve. V času od 12. februarja 1923 do 7. marca 1923 so montirali gladilni cilinder, ki ga je dobavila firma Gebrüder Hemmer iz Ladenburga pri Manheimu. 8. marca 1923 so v papirnici prvič izdelali enostransko glajeni papir. Od tistega trenutka dalje je bil papirni stroj v polnem obratovanju do leta 1929, ko so dosegli do tedaj najvišjo proizvodnjo, 2.227 ton papirja, kar je pomenilo 30 % več kot pred predelavo stroja.

Marca 1924 je preminulega ravnatelja obratov Goričane in Medvode zamenjal Erik Liebeherr, ki je bil pred tem ravnatelj tovarne celuloze v Rebrcah.

Neposredno tehnično nadzorstvo nad proizvodnjo v obratih Goričane in Medvode pa je bilo poverjeno obratnemu vodji Karlu Šmidu, ki je bil prej zaposlen v tovarni celuloze Hinterberg v Avstriji.

Leta 1931 je kot mnoge druge tudi Goričane močno zadela svetovna gospodarska kriza. Tega leta so na papirnem stroju v papirnici Goričane izdelali le še 928 ton papirja. Sočasno z manjšim odkupom se je povečal tudi pritisk tujega papirja na naše tržišče, zaradi česar so septembra 1931 za stalno zaustavili papirni stroj in proizvodnjo papirja. Papirni stroj v Goričanah je bil eden od štirih strojev v »Združenih papirnicah«, imenovali pa so ga stroj »G« (Goričane). »Združene papirnice Vevče, Goričane in Medvode« d.d. v Ljubljani, so se odločile koncentrirati proizvodnjo papirja v Vevčah, proizvodnjo celuloze pa v Goričanah. Goričansko količino papirja je prevzel stroj B na Vevčah. Celo papirni stroji v Vevčah so obratovali samo še tri dni na teden.

Tehnični podatki papirnega stroja »G« v Goričanah po večih predelavah

Izdelala ga je tovarna Maschinenfabrik Leobersdorf v Spodnji Avstriji leta 1872.

Dnevno je papirni stroj lahko proizvedel okoli 8.000 kg papirja. Hitrost stroja je znašala okoli 75 m/min, delovna širina pa je bila 142 cm. V sklop papirnega stroja sta bili vključeni tudi dve stoječi mešalni kadi.

Papirni stroj so sestavljale:

- sitova skupina, dolga 12,90 m in široka 15,90 m;
- gavčna stiskalnica;
- ležeča in stoječa mokra stiskalnica.

Sestava sušilne skupine z valji dolžine 1600 mm:

- trije spodnji sušilci klobučevine;
- prva vrsta sušilcev papirja, sestavljena iz štirih valjev premera 920 mm;
- druga vrsta sušilcev papirja, sestavljena iz treh valjev premera 1222 mm, enega valja premera 920 mm in enega valja premera 2500 mm;
- dva zgornja sušilca klobučevine;
- navijalni in rezalni aparat.

Temeljne tračnice so tekle v razmiku 2000 mm. Stroj je bil opremljen s tresilnikom sita ter vsemi pomožnimi stroji in napravami.

Papirni stroj je prek prenosov gnala vodna turbina. Teža celega stroja je znašala okoli 90 ton.

Papirni stroj je stal v hali papirnega stroja v pritličju papirne tovarne. V istem prostoru od stroja naprej se je nahajala satinaža. Poslopje za papirni stroj je v dolžino merilo okoli 35 m, v širino pa okoli 10 m. Papirna dvorana je bila v prvem nadstropju nad papirnim strojem.

Papirni stroj je doživel več predelav in dodelav. Leta 1891 je bil opremljen z mokro satinirno stiskalnico, ki so jo postavili med 7. in 8. sušilni valj. Stiskalnico je dobavila firma Nebrich iz Golzerna v Nemčiji. Valj je bil dolžine 1,55 m in premera 300 mm. Ohranil se je načrt z dne 6. 8. 1891.

Leta 1893 so povečali sušilno skupino in vgradili dodatne sušilne valje. Tudi za to predelavo imamo ohranjene načrte.

Nazadnje je bil papirni stroj preurejen za izdelavo enostransko gladkih papirjev v letu 1923. Prvi papir, izdelan

na predelanem stroju, je bil izdelan 8. marca 1923.

Papirni stroj so zaradi gospodarske krize ustavili septembra 1931. Kupca zanj bodisi niso iskali, bodisi niso našli in je zaustavljen dočakal in preživel drugo svetovno vojno. Takoj po vojni so njegove dele (sušilno skupino) porabili za gradnjo papirnega stroja, ki so ga kot pomoč tovarni papirja v Beogradu zgradili v papirnici Vevče. Takšen je bil pač dekret Generalne direkcije za papirno industrijo v Ljubljani.

Brusilnico lesa v papirnici v Goričanah so ustavili leta 1929, brusilnico lesa v Medvodah pa leta 1936, saj je vse potrebe krila velebrusilnica v Vevčah, ki so jo zgradili leta 1929. ⁽⁴⁾

V Goričanah se pravočasno specializirajo za proizvodnjo celuloze

V Goričanah je od leta 1890, ko je stekla proizvodnja celuloze v papirnici Goričane, obratoval le en kuhalnik celuloze velikosti okoli 30 kubičnih metrov. V Podgori ob Soči so bili takrat že trije kuhalniki celuloze velikosti po 120 kubičnih metrov. Kljub temu pa je bila goričanska papirnica ponosna na svojo proizvodnjo papirja, celuloze in lesovine. Fotografija iz leta 1923

te takrat majhne tovarne celuloze je bila celo na dopisnicah. Dopisnica je bila izdana leta 1927, ko je skupna proizvodnja papirja v Vevčah in Goričanah znašala mesečno 1,000.000 kilogramov najrazličnejših vrst papirja.

Sledila je modernizacija proizvodnje celuloze v Goričanah z velikimi vlaganji. Do druge svetovne vojne so bili postavljeni trije novi kuhalniki celuloze z volumnom po okoli 65 kubičnih metrov. Prvi kuhalnik (ta je ohranjen



Združene papirnice Vevče, Goričane in Medvode d. d.
v Ljubljani:
Tvornica papirja, celuloze in lesovine v Goričanah.

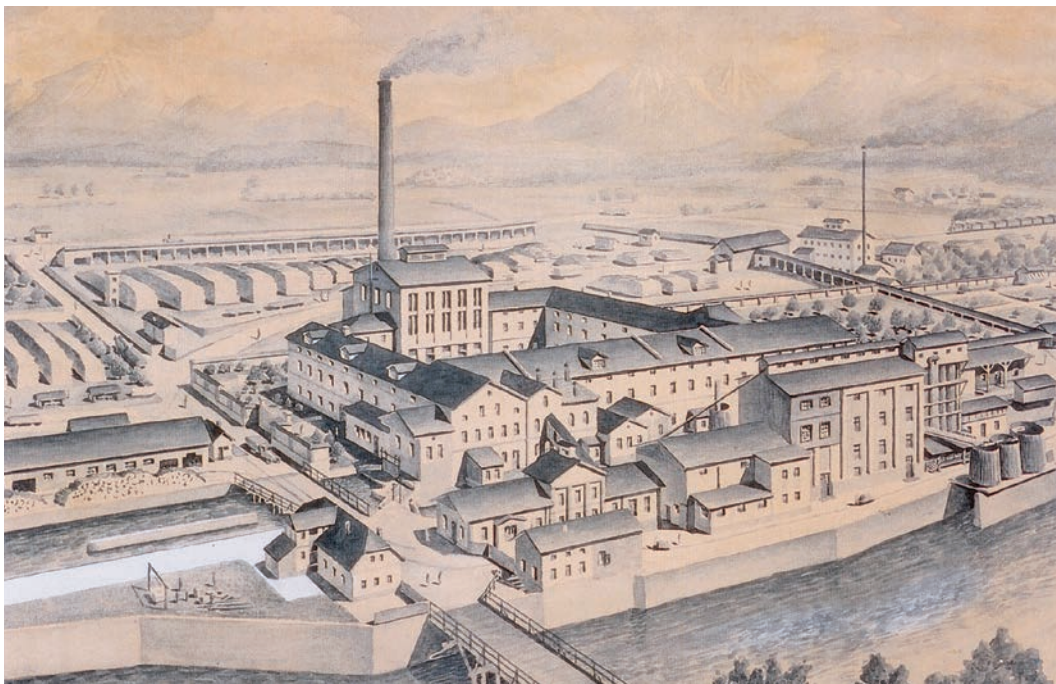
Fotografija proizvodnje celuloze na »otoku« med reko Soro in turbinskim kanalom iz leta 1923.

kot tehnični spomenik) je bil postavljen leta 1929, leta 1934 so postavili drugega in leta 1938 tretjega. Druga svetovna vojna je pokopala načrte za postavitev četrtega kuhalnika, čeprav je bilo zanj že vse pripravljeno.

Novo zgradbo za te tri nove kuhalnike lahko vidimo na risbi J. Karlovška iz leta 1933.

Med vojno so v Goričanah gospodarili Nemci, v Vevčah pa Italijani.

Nemci so pripravili cenitev tovarne celuloze in med popisom je tudi papirni stroj, ki ga je izdelala tovarna strojev Leobersdorfer Maschinenfabrik v Leobersdofu v Nižji Avstriji, ki pa ni bil v obratovanju. Vključno s pomožnimi napravami so ga ocenili na 15.000 rajhovskih mark (RM), celotna tovarna celuloze pa je bila ocenjena na 403.100 RM. Tovarno pinotana so prodali privatni firmi iz Nemčije. Seveda so morali tovarno pinotana najprej odvzeti lastnikom iz Siska.



Tovarna celuloze in tovarna pinotana Goričane leta 1933 (J. Karlovšek).

Tovarna celuloze in tudi tovarna pinotana preideta v državno last

Po koncu druge svetovne vojne je tovarna prešla v državno last. Tovarna celuloze v Goričanah je kot samostojno podjetje poslovala do leta 1947, potem pa sta bili tovarna celuloze Goričane in papirnica Vevče z odločbo zvezne vlade v Beogradu združeni v podjetje »Papirnica in tovarna celuloze Vevče-Goričane« s sedežem v Vevčah. Leta 1950 je podjetje prešlo v pristojnost vlade Ljudske republike Slovenije, priključili pa so mu še tovarno »Tanin« Medvode, ki je bila za predelavo odpadne lužine tovarne celuloze zgrajena leta 1925.⁽⁵⁾ Združeno podjetje se je kmalu ločilo v dve podjetji. V Goričanah je nastala »Tovarna celuloze in pinotana Goričane«, ki pa se je leta 1955 preimenovala v podjetje »Celuloza« Medvode.

»CELULOZA« MEDVODE NA POTI DO PONOVNE PROIZVODNJE PAPIRJA (1959–1976)

V tem času so začeli z modernizacijo tovarne. Leta 1956 so postavili sodoben stoječi kuhalnik celuloze. Leta 1959 je tovarna izdelala investicijski program rekonstrukcije in povečanja proizvodnje celuloze in postavitve papirnega stroja, ki so ga republiški organi odobrili. Odobrena sredstva so zadostovala le za izvedbo prve faze prve etape, kar je pomenilo izgradnjo priprave kisline, sortacije in belilnice. Tovarna se je leta 1962 v želji, da skupaj izpeljeta predvidene investicije, znova združila s papirnico Vevče. Nazadnje so se domenili, da bi se v Goričanah zgradila tovarna celuloze s kapaciteto 75.000 ton celuloze letno. Ker pa združena papirnica na noben način ni uspela zagotoviti sredstev, je tovarna celuloze leta 1969 začela sama iskati druge partnerje, ki bi bili pripravljeni investirati v tovarno celuloze s kapaciteto 100.000 ton letno. Leta 1970 se je tovarna celuloze Medvode izločila iz Združenih papirnic Ljubljana.⁽⁶⁾

Tovarna celuloze Medvode je spet samostojno podjetje

Za srednjeročni program razvoja slovenske papirne industrije (1970–1975) je Tovarna celuloze in papirja Krško predložila konkurenčen program izgradnje nove tovarne magnefitne celuloze, ki ga je podprla slovenska papirna industrija

Slovenije. Tovarna celuloze Medvode je morala najprej sanirati kritične točke v proizvodnji celuloze, obenem pa je začela iskati partnerja, ki bi ji pomagal postaviti papirni stroj. Zanimanje za postavitev papirnega stroja je pokazalo podjetje AERO, kemična in grafična industrija Celje, saj je potrebovalo papir za svoje obrate.



ZDRUŽITEV S PODJETJEM »AERO« CELJE

Pogovore o združitvi sta vodila direktor Celuloze Medvode Slavko Zule in direktor Aera Celje Miran Mejak, ki je januarja 1972 nastopil službo v Aeru. Ob koncu leta 1975 je na njegovo mesto prišel Milan Zupančič.

Dne 17. aprila 1973 sta oba delavska sveta potrdila združitev podjetij in s 1. julijem 1973 je pričela veljati statutarna pogodba, s katero sta podjetji pričeli skupno poslovanje.

Postavitev papirnega stroja z energetiko je bila izvedena v rekordnem času. Svečana otvoritev in zagon papirnega stroja sta se zgodila **23. aprila 1976**. Papirni stroj je izdelala firma Andritz iz avstrijskega Gradca po licenci nemškega podjetja Escher Wyss. Stroj je bil zgrajen za delovno hitrost do 350 metrov na minuto, s širino sita 4100 milimetrov. Pri širini papirnega traku 375 centimetrov je letna kapaciteta stroja znašala 20.000 ton papirja. Energetski del sistema je bil projektiran za proizvodnjo 40 ton pare na uro. Parna turbina je poganjala generator z močjo 6,4 MW. Parni kotel je izdelalo podjetje Waagner Biro iz avstrijskega Gradca, parno turbino in električni generator pa nemški Siemens.

*Vznesen naslov poročila
o svečani otvoritvi novo
zgrajenih obratov v Goričanah
v časopisu slovenske papirne
industrije »Papir«*

*MEDVODE –
PO 45 LETIH
SPET
PROIZVODNJA
PAPIRJA*

AERO BO POSTAL VEČJI,

Po lanskoletnih neuspešnih pogovorih o združitvi s Papirnico Radeče so se predstavniki celjskega Aera pričeli pogovarjati o možnostih sodelovanja z medvoško Tovarno celuloze. Obe podjetji sta hitro našli skupni jezik in pred dnevi je delavski svet Tovarne celuloze Medvode sprejel sklep o razpisu referendumu, ki bo odločil, ali se bo ta tovarna pripojila k Aeru.

Pri združitvi gre za spojitev bazične s predelovalno industrijo. Za nemoten potek proizvodnje rabi ob visoki stopnji razvoja Aero vsako leto večje količine papirja in vsako leto je dobava osnovnih papirjev težja. Prav zaradi tega obsega program združitve investicijo v papirni stroj, s katerim bodo v Medvodah v jeseni 1975. leta pričeli redno proizvodnjo papirja. V Medvodah bodo opravili tudi prvo fazo oplemenitenja brezsajnega kopirnega papirja, ki ga bo pričel Aero proizvajati v kratkem v sodelovanju z japonskimi partnerji. Poleg papirja bodo v Medvodah z minimalnimi investicijami izpopolnili predelavo odpadnih vod, ki nastajajo pri proizvodnji celuloze in ki jih doslej niso dovolj izkoristili. Med najpomembnejšimi proizvodi te tovarne pa bo še naprej ostala celuloza, ki slovi kot najkvalitetnejša na domačem trgu. Interesi obeh podjetij se skoraj idealno ujemajo in zato nihče ne dvomi v uspešen izid referendumu o pripojitvi. Tovarna celuloze Medvode bo tako postala TOZD Aera in bo še naprej poslovala kot samostojna enota.

Zanimiv nagovor predstavnika sindikatov inž. Janeza Barboriča v poročilu s svečane otvoritve novih obratov

Mnogi med vami, ki ste se danes zbrali, da bi na slovesen način izročili svojemu namenu novo toplarno in papirnico, se bržčas še spominjate časov, ko je tu na bregu Sore ždela stara tovarna in ko je življenje v njej bolj životarilo kot utripalo v živahnem ritmu gospodarskega razvoja. Saj ni treba, da bi spomin segal tako daleč v preteklost. Morda vsega deset let nazaj.

Brezperspektivnost in malodušje sta tedaj polnila vaš delovni dan. Mnogi so odhajali, še več pa vas je ostalo, zatrdno odločenih, da slej ko prej preženete malodušje in zagotovite svetlejšo perspektivo. Pridružili so se vam še drugi in skupaj z novimi sodelavci ste začeli kovati usodo svojega jutrišnjega dne. Jutro tega jutrišnjega dne je slednjič napočilo tudi za vas vse.

Tovarna celuloze Medvode, taka, kakršna je danes, se zdaj nedvomno uvršča med pomembne industrijske obrate ne samo na slovenskem, temveč tudi v državi.

Vaša prihodnost ni več negotova, zagotovili ste si delo in varnost – pa ne samo sebi, tudi mnogim novim sodelavcem.

Vendar vem, da z dograditvijo nove toplarne in z drugimi objekti, ki jih je vključeval vaš investicijski program, še zdaleč niste potešili svoje ustvarjalne sle.

Nadaljnji razvoj papirnice Goričane je nazorno pokazal koliko ustvarjalne sile je bilo potrebno še po otvoritvi, da se je preživelo takšne dogodke, kot sta bili zaustavitvi proizvodnje celuloze in pinotana, in da se je izpeljalo toliko predelav papirnega stroja, da je ta še danes konkurenčen tudi najboljšim na svetu. K vsem tem predelavam papirnega stroja se bomo vrnili v nadaljevanju, najprej pa si malo bolj podrobno oglejmo dosežke velike investicije v letih 1975/1976.

Zapisek iz brošure, ki je bila izdana ob svečani otvoritvi nove tovarne papirja in energetskega objekta

S postavitvijo novega obrata za proizvodnjo papirja v Medvodah so izpolnjene želje vseh v skupnem podjetju. Že dolgo smo ugotavljali potrebo za zagotovitev lastnih surovin za proizvodnjo. Najvažnejša med njimi je papir. Lastna proizvodnja je postala imperativ, je postala nuja za življenjski obstoj in nadaljnji razvoj združenega podjetja.

Izhodišče za povezavo je bilo utemeljeno z dejstvom, da gre v podjetju »Celuloza« za partnerja, ki ima surovine za proizvodnjo papirja, to je celulozo. Da ima les v srcu gorenjskih gozdov.

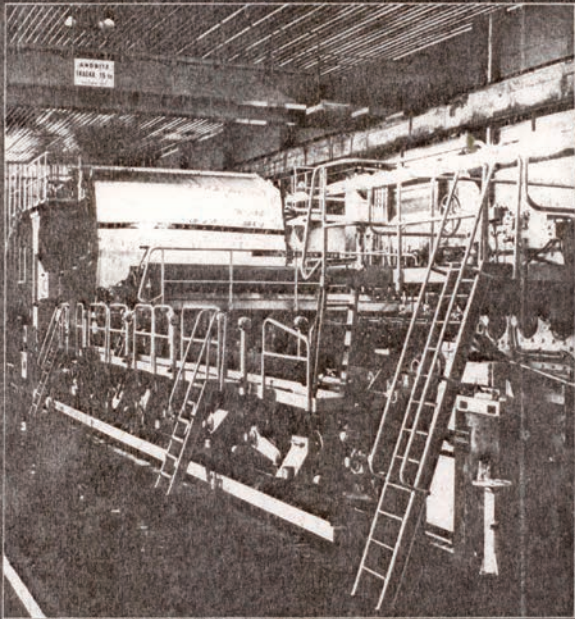
POSTAVITEV PAPIRNEGA STROJA ANDRITZ PO LICENCI »ESCHER-WYSS«

40

PAPIRNICA GORIČANE

ANDRITZ
Ein Begriff in der Papier- und Zellstoffindustrie

Für die Papierfabrik Medvode (Jugoslawien) lieferten wir eine komplette Papiermaschinenanlage zur Herstellung graphischer Papiere im Flächengewichtsbereich von 40-110g/m² und einer Tagesproduktion von 60-85 Tonnen
Siebbreite: 4100mm, Arbeitsgeschwindigkeit 70-350m/min.



Unser Erzeugungsprogramm umfaßt:
Holzentründungsanlagen
Stoffaufbereitungsanlagen
Papier- und Kartonmaschinen Bauart Andritz-Escher Wyss
Lufttechnische Einrichtungen
Doppelsiebpressen zur Entwässerung von Faserstoffen
Zellstoffentwässerungsmaschinen
Schlammmentwässerungsmaschinen
Stoffpumpen

Maschinenfabrik ANDRITZ Actiengesellschaft
A-8045 Graz-Andritz, Austria

*Oglas proizvajalca
stroja v
papirniški reviji
»Wochenblatt für
Papierfabrikation«.*

Poglejmo, kako so potekale priprave na postavitve papirnega stroja in energetike.

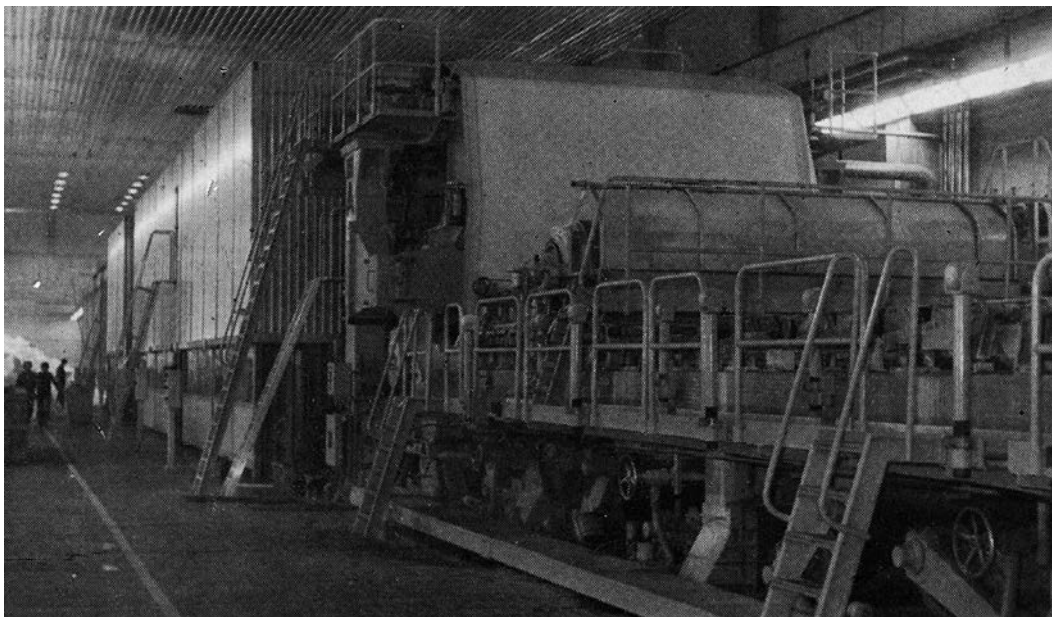
Takoj po združitvi z Aerom maja 1973 se je začelo odgovorno delo. Že pozno jeseni 1973 so razpisali mednarodni natečaj, zbiranje ponudb za opremo. V ožji izbor je prišlo pet svetovno najuglednejših ponudnikov. Izbor je bil opravljen decembra leta 1973 s pomočjo strokovnjakov iz Industrijskega biroja in Elektroprojekta iz Ljubljane.

Za dobavitelja je bil izbran konzorcij firm ANDRITZ - WAAGNER BIRO -

SIEMENS. Torej dve avstrijski in ena zahodnonemška firma. Tehnološko opremo za proizvodnjo papirja je dobavil ANDRITZ iz Gradca. Oprema je zajemala napravo za pripravo papirne snovi (razpuščevalnike, mline, kadi, čistilce itd.), opremo za pripravo dodatkov in papirni stroj najsodobnejše konstrukcije z delovno hitrostjo do 250 m/min ter konstrukcijsko hitrostjo 400 m/min in širino papirnega traku 3,75 m.

Papirni stroj je omogočal izdelavo okoli 20.000 ton najbolj kvalitetnih brezlesnih papirjev, kot so: AC papir,

Fotografija novega papirnega stroja v papirniški reviji »Papir«.



heliografski papir, papir za neskončne obrazce itd. Papirnemu stroju so sledile še naprave za dodelavo surovih zvitkov: previjalni stroj, prečni rezalni stroj, pakirni stroj, tehtnice in drugo.

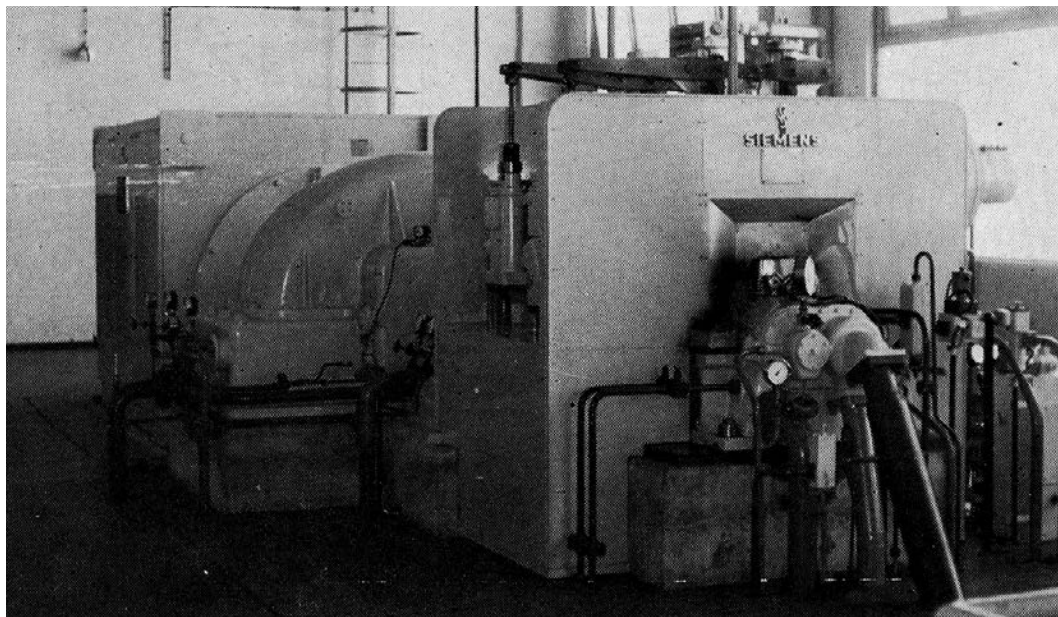
Glede na to, da je proizvodnja papirja velik porabnik tehnološke pare in električne energije, je papirnica pri firmi WAAGNER BIRO v Gradcu naročila parni kotel z zmogljivostjo 40 ton pare na uro in pomožni parni kotel za 15 ton pare na uro z ustrezno kemično pripravo kotlovske vode. Parna turbina (60 bar, 500 stopinj Celzija) z generatorjem 6,4 MW je bila nabavljena s ciljem, da bi

bila preskrba z električno energijo čim bolj ekonomična. Dobavitelj te opreme je bil SIEMENS Erlangen v Nemčiji, ki je dobavil tudi vso drugo električno opremo.

Predpogodba s konzorcijem ANDRITZ - WAAGNER BIRO - SIEMENS je bila sklenjena decembra leta 1973. Kot uvoznik je bila izbrana celjska Kovinotehna. Kmalu za tem so stekli vsi bančni oziroma finančni posli.

Za uspeh projekta je bilo izjemno pomembno, da je bila cena za papirni stroj zajamčena in limitirana že v času predpogodbe. Ta ukrep je imel

Fotografija nove parne turbine z generatorjem v papirniški reviji »Papir«.



velike prednosti, še zlasti zato, ker smo se investicije lotili v času močnih inflacijskih gibanj.

To, da so za dobavo opreme izbrali konzorcij treh tujih firm, se je izkazalo za odlično potezo, ki je pocenila investicijo. Vsa vprašanja, ki so se pojavljala med gradnjo in montažo, se je obravnavalo in reševalo na enem mestu. Pokazala pa se je še ena prednost: lokacijska bližina glavnega dobavitelja.

Začetek leta 1974 je minil v izdelavi dokumentacije za pridobitev dokumentov za gradnjo. V tem času je potekalo tudi zbiranje številnih soglasij. Sočasno sta s strani Elektroprojekta in Industrijskega biroja potekala tudi izdelava gradbenih projektov ter postopek za pridobivanje gradbenega dovoljenja. Tako se je lahko junija leta 1974 izbralo izvajalce gradbenih del.

Težko pričakovani trenutek začetka gradnje je z obsežnimi zemeljskimi deli prišel v začetku julija leta 1974. Mila zima 1974/1975 je omogočala izvedbo gradbenih del v roku in brez večjih zadreg.

Na podlagi predpogodbe, ki je bila podpisana 27. februarja 1973, je papirnica izdelala finančno dokumentacijo in pri Jugobanki najela kredit v višini 111,693.000 din po 11 % obrestni meri z odplačilno dobo sedmih

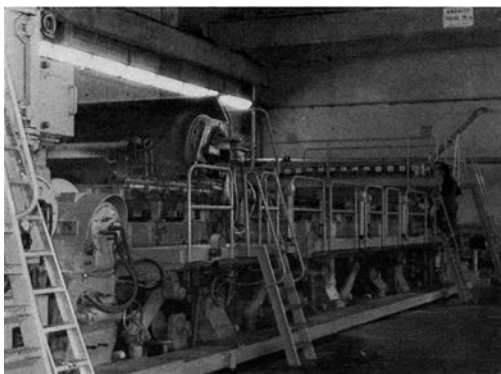
let. Najeli so tudi ustrezna jamstva za devizna posojila ter za dinarska jamstva v višini 52,922.000 din, nadalje dinarsko jamstvo za 25 milijonov dinarjev obratnih sredstev ter za 27,223.000 din osnovnih sredstev. Poleg tega je bilo treba plačati še milijon dinarjev ustanovitvenega deleža Jugobanki in skleniti pogodbo za vročitev 45 milijonov dinarjev za dobo desetih let.

V času gradnje se je pokazalo, da ta sredstva ne bodo zadostovala za dokončanje investicije. Ni bilo druge možnosti kot pri Jugobanki najeti nov kredit, ki je pokrival povečano investicijsko vrednost. Dogovoriti in podpisati pa je bilo treba še dodatne pogodbe za devizna posojila.

Podražitve so bile posledica znanih dejstev. Investicija je potekala v času največjih inflacijskih gibanj. Spremenili so se tudi valutni kurzi, zato je bilo treba plačevati znatno višje zneske za dobavljeno opremo. Bistveno se je povečala tudi carina, predvsem zato, ker je odpadla prvotna beneficirana (5 %) carinska stopnja. Papirna industrija je bila namreč tik pred tem izločena iz prioriternih panog, zato je bilo treba plačati običajno carino. Odpadla je tudi možnost meničnega plačila carine s šestmesečnim odlogom. Carino je bilo treba plačati takoj in v polnem znesku.

Investicija se je skupno podražila vsega za okoli 130 milijonov dinarjev in prvotno načrtovanih 330 milijonov dinarjev na okoli 450 milijonov dinarjev.

Pomemben dejavnik za podražitev je bila tudi odločitev, da so v papirni stroj dogradili napravo, ki je znižala kasnejšo investicijo v Celju. Papir, ki naj bi se proizvajal v Medvodah, naj bi namreč kasneje dodelali v Celju. Šlo je za tako imenovane brezogljicne kopirne papirje. Ko je bila pogodba za papirni stroj že podpisana, so ugotovili, da je najcenejša proizvodnja tega papirja potem, ko se v papirni stroj že vgradi posebna premazovalna naprava za prvi premaz. S tem bi lahko odpadel sistem za dvojno premazovanje na stroju v Celju. Ta naprava za premazovanje na papirnem stroju v Medvodah je sicer



Fotografija sitove skupine novega papirnega stroja v papirniški reviji »Papir«.

stala 15 milijonov dinarjev, kar pa je bilo bistveno manj, kot če bi vgradili sistem drugega premaza v Celju.

V reševanje vseh vprašanj, zlasti finančnih, so bili vloženi izredni napori. Reševanje se je dogajalo v času, ko so bili pogoji za investicije močno poostreni. Vendar to ni ustavilo tako povečane investicije.

Novi papirni stroj je imel izjemno širok spekter proizvodnih možnosti. Omogočal je proizvodnjo papirjev od 40 gramov na kvadratni meter do 110 »gramske« papirje. S tem je bilo omogočeno odločanje za proizvodnjo tistih papirjev, ki bodo količinsko bolj zanimivi in seveda predvsem bolj rentabilni. Pomembna je bila ugotovitev, da naj bi imela proizvodnja AC papirjev stalno enako kvaliteto. To pomeni, da naj bi bil papir narejen vedno iz enake kvalitete celuloze in da zatorej ni prihajalo do različnih tehničnih lastnosti. To je bil predpogoj za stabilno proizvodnjo in tudi za stabilen ekonomski položaj.

Tehnični podatki novega papirnega stroja ANDRITZ in novih naprav v energetiki

Proizvajalec papirnega stroja: Andritz iz avstrijskega Gradca (Graz).

Tehnični podatki stroja:

- Delovna hitrost: do 350 m/min.
- Širina sita: 4100 mm.
- Širina papirnega traku: 375 cm.
- Letna kapaciteta stroja: 20.000 ton papirja.

Energetika je morala zagotavljati zadostno količino pare za proizvodnjo celuloze in za potrebe papirnice, zato jo je bilo treba zgraditi čisto na novo. Parni kotel je izdelala firma WAAGNER BIRO iz avstrijskega Gradca (60 bar, 500 °C), parno turbino in generator 6,4 MW pa nemški Siemens.

V papirniški reviji »Wochenblatt für Papierfabrikation« je proizvajalec papirnega stroja v oktobrski številki leta 1978 objavil oglas, s katerim je vse papirničarje po Evropi obvestil, da je v Medvodah postavljen nov, sodoben papirni stroj. V isti številki je bil objavljen tudi članek dipl. ing. Mlakarja iz Tovarne papirja Medvode, ki je na vsakoletnem posvetovanju avstrijskih papirničarjev »APV« v Gradcu predstavil novo tovarno finega papirja v Medvodah in podal izkušnje z enoletnim obratovanjem novega papirnega stroja.

Ker je bil zagon premaznega stroja v Celju načrtovan šele za februar 1978, se je nekaj »samokopirnega« papirja

s CB premazom pošiljalo na dodelavo v Anglijo. Pomembno pa je bilo to, da se je že v prvem letu dosegalo 110 % kapaciteto pri »samokopirnih« papirjih s premazom na papirnem stroju v Goričanah, ravno tako pa tudi pri »samokopirnih« papirjih s škrobnim premazom na eni in CF premazom na drugi strani papirnega traku. Pri vseh ostalih papirjih, ki so bili v izdelavi v letu 1977, pa se je dosegalo 120 % kapacitete, predvidene pri projektiranju.

Naslednja večja investicija – rekonstrukcija kuharije v proizvodnji celuloze

Investicija je bila nujna za ohranitev varnosti pri proizvodnji. Četrty kahalnik so prestavili na novo lokacijo, ga povečali, iz zaustavljene tovarne celuloze v Zagrebu pa so kupili še dva kahalnika. Investicijo so uspešno zaključili leta 1984.

Sčasoma so posodobili tudi ostale oddelke v proizvodnji celuloze. Za ohranitev konkurenčnosti tovarne v proizvodnji papirja so morali rekonstruirati papirni stroj, kar so izvedli leta 1987. Zamenjali so cele sklope papirnega stroja in namestili nov difuzorski natok ter nov sistem mokrih stiskalnic, povečali so sušilno skupino in vgradili plinski grelec ter nov gladilnik, hkrati pa so preuredili še

parno-kondenzatni sistem. Na papirni stroj so vgradili procesni računalnik.

Rekonstrukcija je uspela, saj se je delovna hitrost papirnega stroja povečala na 600 m/min, letna kapaciteta stroja pa se je povečala za 50 odstotkov. Posodobili so tudi pripravo snovi, pripravo kemikalij in pripravo premazne snovi. V krogotok odpadnih vod so vgradili ploščni filter, kar se je pokazalo za ekološko zelo učinkovito, saj se je začelo vračati veliko vlaken, ki so prej onesnaževala okolje.⁽⁷⁾

Poglejmo si, kateri sklopi papirnega stroja so bili rekonstruirani.

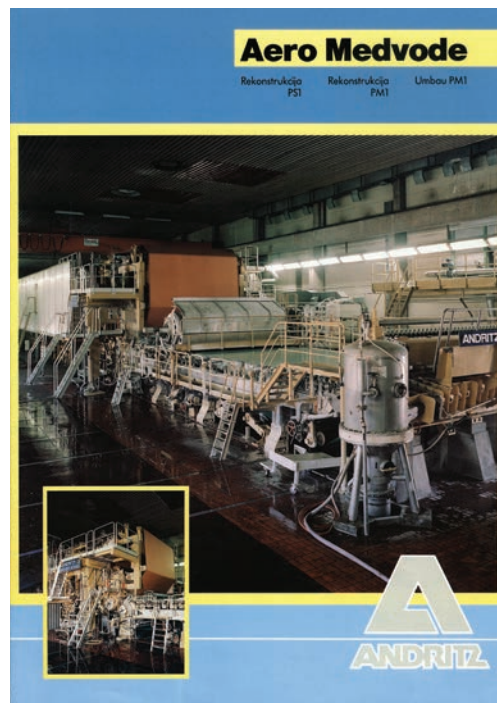
Najprej prvi del stroja, od natoka do sušilne skupine: zamenjani so bili natok z modernim difuzorskim natokom, deli sitove skupine, nov eguteur ter popolnoma nove stiskalnice z valji s sodobno NIPCO tehniko (valj se lahko ukrivi in popravlja profil debeline papirnega traku), posodobljeni pa so bili tudi deli sušilne skupine.

Poglejmo si še, kaj je bilo rekonstruirano v nadaljevanju papirnega stroja: posodobljen je bil premazni agregat Bill-blade in vgrajen nov sušilnik papirnega traku za premaznim agregatom.

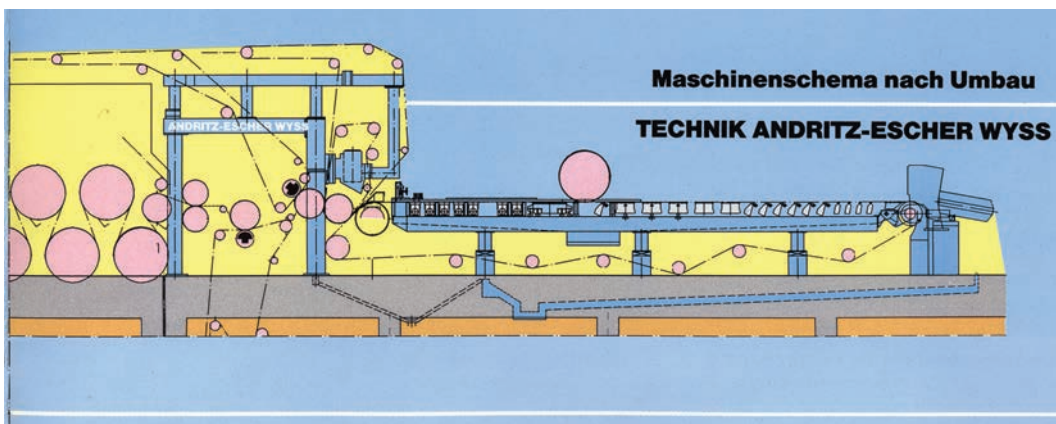
Stari gladilnik so zamenjali s sodobnim back-to-back gladilnikom firme Hunt&Moscrop iz Anglije. Za

gladilnikom je bil vgrajen nov merilni okvir z modernimi merilniki kakovosti papirja. Navijalnik je bil povišan zaradi zahtev varstva pri delu.

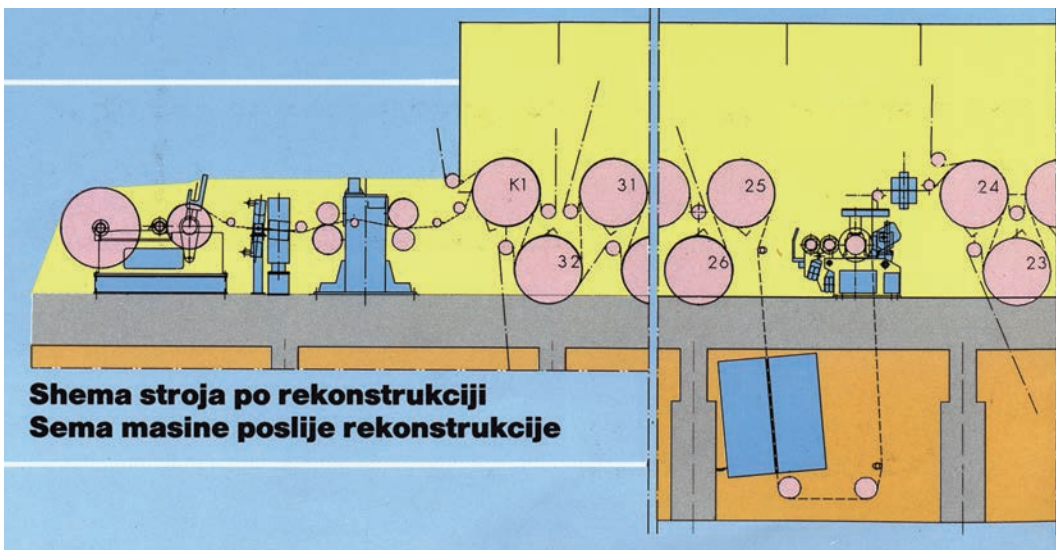
Proizvajalec strojev in naprav za celulozno in papirno industrijo ANDRITZ iz Gradca, ki je dobavil opremo za rekonstrukcijo, je ob uspešnem zaključku investicije izdal letak, s katerim se je pred kupci pohvalil z uspešno predelavo proizvodnje papirja v Goričanah.



Oglasni list proizvajalca stroja o izvedeni predelavi papirnega stroja v Goričanah.



Prvi del stroja: natok, vzdolžno sito in stiskalnice. Papirni trak teče z desne proti levi.



Zaključni del papirnega stroja: premazni agregat, naknadna sušilna skupina, gladilnik, merilni okvir za kontrolo kvalitete papirja in navijalnik. Papirni trak teče z desne proti levi.

Cilj rekonstrukcije

Zmogljivost papirnega stroja PM1, ki ga je Andritz dobavil pred približno 10 leti, naj bi se z rekonstrukcijo v letu 1986/1987 povečala za okrog 50 %. Hkrati naj bi izboljšali kvaliteto ter uvedli nove proizvode.

Podatki o stroju

Proizvodni program:	<ul style="list-style-type: none">● osnovni NCR papir● brezkončni papir za formularje● CF premazan papir● kopirni papir
Gramatura:	40 do 90 gr/m ²
Sirina sita:	4.100 mm
Hitrost po rekonstrukciji:	600 m/min

Obseg dobave

Andritz je dobavil naslednje komponente za načrtovano rekonstrukcijo:

- dele za sistem priprave snovi in predelave izmeta
 - konstanti del
 - pripravo kemikalij
 - natok s stopenjskim difuzorjem
 - dele za sitovo skupino
 - stiskalno sekcijo z NIPCO tehnic
 - dele sušilne skupine
 - gladilnik
 - ploščni filter
 - vakuumske črpalke
 - pripravo premazne snovi
- Pri mnogih delih dobave in montaži je Andritz sodeloval z jugoslovanskimi podjetji.

Predelava je uspela, poglejmo, kaj so povedali predstavniki papirnice in dobavitelja opreme Andritz:

Medvode...

“Dosegli smo zastavljene cilje. Z rekonstrukcijo smo izpolnili zahteve po večji proizvodnji in boljšem papirju. Zaradi večje učinkovitosti papirnega stroja se je povečala ekonomičnost proizvodnje papirja. Prepričani smo, da smo pravilno zastavili korak v prihodnost...”

...in Andritz...

“Eden najhitrejših papirnih strojev z vzdolžnim sitom v deželi je bil dobavljen in rekonstruiran v rekordnem času. To je bilo med drugim mogoče le zaradi dobrega sodelovanja vseh partnerjev, tako s strani tovarne papirja kot s strani dobavitelja strojne opreme. Stroj je opremljen skladno z zadnjim stanjem tehnike. Investicija v modernizacijo naprave zasluži pozornost in priznanje tudi preko deželnih meja. Delavci Andritz-a smo ponosni, da smo sodelovali pri tem uspehu.”

TOVARNA CELULOZE IN PAPIRJA MEDVODE SE IZLOČI IZ SESTAVA PODJETJA AERO

V skupnem podjetju AERO je bila Tovarna celuloze in papirja organizacijsko popolnoma samostojno podjetje. Novi zakon o podjetjih pa je omogočal možnost preoblikovanja podjetij. Tako se je SOZD AERO preoblikoval v štiri samostojna podjetja. Tovarna celuloze in papirja Medvode se je 4. decembra 1989 kot družbeno podjetje vpisala v register pri Temeljnem sodišču v Ljubljani.

USTANOVITEV DELNIŠKE DRUŽBE GORIČANE, TOVARNA CELULOZE IN PAPIRJA MEDVODE, D.D.

Maja 1990 je Tovarna celuloze in papirja Medvode s firmo Frantschach AG podpisala pogodbo o vlaganju kapitala v podjetje z namenom, da se podjetje Goričane preoblikuje v delniško družbo. K ustanovitvi delniške družbe so povabili tudi podjetje Andritz iz avstrijskega Gradca in dve iz nekdanjega skupnega podjetja - CETIS Celje in AERO, Kemična, grafična in papirna industrija Celje. Delniška družba »Goričane, Tovarna celuloze in papirja« je bila ustanovljena 14. avgusta 1991, v sodni register pa vpisana 25. oktobra 1991. V letih 1990 in 1991 je tovarna poslovala na robu izgube, čeprav je leta 1991 izdelala rekordnih 43.447 ton papirja. Še posebej kritično pa je bilo leto 1992, saj je država februarja zaprla proizvodnjo celuloze.

ZAUSTAVITEV PROIZVODNJE CELULOZE IN PINOTANA FEBRUARJA 1992

Tovarna je imela pri poslovanju v letih 1990 in 1991 veliko težav. Razpadel je jugoslovanski trg, tovarno je pestila nelikvidnost, tem težavam pa se je pridružila še velika akcija stranke zelenih za zaustavitev proizvodnje.

V tovarni so delno okoljsko sanacijo izvršili leta 1984 z zgraditvijo nove kuharije za celulozo, leta 1992 pa so začeli z ekološkim beljenjem celuloze z vodikovim peroksidom, zato so tudi priključili odvod odpadnih vod na kanalizacijski kolektor Medvode-Brod-Zalog. Tovarna si je za vse investicije pridobila vodnogospodarsko dovoljenje. Po vseh izvedenih ukrepih pa se je izkazalo, da je država predpisala napačno reševanje problema odpadnih vod v proizvodnji celuloze. Kljub tej lastni napaki pa ni dovolila odloga okoljske sanacije. Dobesedno čez noč je zaprla kolektor in prepovedala izpust odpadnih vod v reko Soro. Nihče tedaj ni razumel, kako ni bilo mogoče uvesti štiriletnega moratorija za izvedbo okoljskih ukrepov, ki bi sanirali 102 leti staro prakso odvajanja odpadnih voda.

17. februarja 1992 je podjetje Vodovod-Kanalizacija zaprla dovod odpadnih vod iz proizvodnje celuloze v kolektor Medvode-Brod-Zalog. Da bi bila ironija še večja, je izgradnjo tega kolektorja po navodilih države sofinancirala tudi papirnica Goričane.

Zaustavitev proizvodnje celuloze je povzročila zelo hiter finančni zlom papirnice. Leta 1992 se je namreč na svetovnem trgu zvišala cena celuloze, temu dvigu cene surovine pa ni sledil tudi dvig cene papirja, vsaj ne dovolj hitro. Tovarna je morala izplačevati tudi plače 250 brezposelnim delavcem ter kriti stroške zapiranja obrata proizvodnje celuloze in povečane stroške energije. Tovarna je od države zaradi škode, ki jo je utrpela, zahtevala odškodnino, vendar neuspešno.

Vlada je prisilila papirnico, da je prešla pod okrilje Sklada za razvoj Republike Slovenije, tistega sklada, pri katerem so dobila zatočišča podjetja, ki so se zaradi slabega poslovanja in zaradi razpada jugoslovanskega trga finančno strla.

V tovarni so proizvajali samo še papir, deloval pa je tudi energetska objekt. Zaposlenih je bilo le še 170 delavcev. Sočasno z zaustavitvijo proizvodnje celuloze se je ustavila tudi proizvodnja pinotana, saj je bila surovina za njegovo proizvodnjo odpadni lug iz proizvodnje celuloze.⁽⁸⁾



Pogled na dimnik iz mostu čez Soro

SKLAD REPUBLIKE SLOVENIJE ZA RAZVOJ POSTANE LASTNIK DRUŽBENEGA KAPITALA V ZNESKU 75 ODSOTKOV CELOTNEGA VLOŽKA V DELNIŠKI DRUŽBI

Delavski svet je jeseni 1992 sprejel sklep, da se podjetje udeleži natečaja Republike Slovenije za pomoč pri prestrukturiranju in sanaciji podjetij. Dne 19. oktobra 1992 so s Skladom Republike Slovenije za razvoj podpisali pogodbo o prenosu družbenega kapitala v višini 75 odstotkov na Sklad.⁽⁹⁾

Decembra 1992 se je ustanovilo vzporedno podjetje GO-PA p.o. Goričane, prek katerega se je začela sanacija tovarne.⁽¹⁰⁾

Tovarna je ime spremenila v »Goričane, tovarna papirja Medvode, d.d.«

V nekaj letih se je tovarna postavila na noge in v juniju 1995 je bil žiro račun podjetja deblokiran.⁽¹¹⁾ Sklad je podjetje dokapitaliziral s 7,5 milijona

nemških mark in dokapitalizacija je veljala od 1. januarja 1995. Skladov delež se je v podjetju tako povečal na 80,3 odstotka.⁽¹²⁾

Izboljšano finančno stanje je omogočilo prve nove investicije: kupili so nov pick-up valj, ki je omogočil manjše povečanje hitrosti papirnega stroja (610 metrov na minuto) in nov prečni rezalni stroj v znesku dveh milijonov nemških mark.

Konec leta 1996 so montirali nov navijalnik, ki je omogočil zmanjšanje izmeta papirja, omogočil boljše navijanje papirja ter skrajšal zastojne ure zaradi okvar stroja. Navijal se je lahko enkrat težji zvitek kot prej, kar je pomenilo dodatno zmanjšanje izmeta. Kupili so nove poliuretanske obloge na NIPCO valjih, kar je omogočilo povečanje hitrosti izdelave nekaterih vrst papirja.

Leta 1997 je tovarna pridobila certifikat ISO 9001.⁽¹³⁾

Avstrijski podjetji Frantschach AG in Andritz AG sta leta 1998 Slovenski razvojni družbi prodali svoj delež v papirnici Goričane.

Leta 1999 so investirali v izboljšanje tehnologije premazovanja papirja.

Kupili so nov premazni agregat in novo premazno kuhinjo ter izvedli nekaj manjših predelav papirnega stroja. Stroški investicije so znašali 13,5 milijonov nemških mark.

Leta 2001 so Goričane investirale v izboljšanje kakovosti papirja in povečanje hitrosti papirnega stroja na 800 metrov v minuti na sitovi skupini, kar je pomenilo maksimalno hitrost 840 metrov na minuto na navijalniku. Strošek investicije je znašal 11 milijonov nemških mark.

V letu 2002 so zgradili novo halo in vanjo vgradili nov vzdolžni rezalni stroj, s katerim so lahko sledili povečani proizvodnji papirja. Kupili so tudi novo linijo za zavijanje zvitkov papirja. Investicije v letu 2002 so znašale 7,5 milijona evrov.

SLOVENSKA RAZVOJNA DRUŽBA V LIKVIDACIJI PRODA SVOJ DELEŽ V GORIČANAH

Slovenska razvojna družba je na tretjem razpisu svoj večinski delež (85,34 %) v Goričanah prodala edinemu ponudniku, družbi Papigor, holding, d.d. Pogodbo o nakupu so podpisali 7. novembra 2002.⁽¹⁴⁾

Goričane so v letih 2002–2006 povečevale proizvodnjo, zmanjševale specifično porabo energije in odlično poslovale.

Več o razvoju Goričan po prevzemu s strani novega lastnika leta 2002 pa v dodatku.

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- (4) Jože ŠORN, Razvoj papirnice Vevče, Ljubljana 1956, str. 9–137
- (5) Arhiv tovarne papirja »GORIČANE« d.d

- (6) Glej (5)
- (7) Glej (5)
- (8) Glej (5)
- (9) Glej (5)
- (10) Glej (5)
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- (13) »GORIČANE«, IV, 1997, šte. 2
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GREP 6





ZANESLJIV PROIZVAJALEC SPECIALNIH PAPIRJEV

*Pregled glavnih investicij
in večjih dogodkov
v letih 2006 do danes.*

LETO 2006



- 17. junija 2006 se je po 17 dneh zastoja zaključilo zahtevno obdobje vgradnje investicijske opreme. Namen investicije je bilo povečanje kvantitete in kvalitete papirja. Proizvodnja papirja je bila posodobljena v vseh pogledih: z najnovejšo tehnološko, tehnično, računalniško in procesno tehnologijo. Vključeni so bili vsi segmenti proizvodnje papirja: priprava snovi, konstantni del, natok, sitova skupina, gladilnik, nov računalniški sistem za nadzor in upravljanje procesa, sistem za nadzor kakovosti in samega papirnega traku ter elektro motorni pogoni. Skupni strošek investicije je znašal več kot 15 mio evrov.
- Novembra 2006 je sledil slovesen zaključek investicije.
- Novembra 2006 je na Bledu potekalo vsakoletno srečanje Društva inženirjev in tehnikov papirništva Slovenije (DITP). Med predavanji je bila tudi predstavitev modernizacije proizvodnje papirja v Papirnici Goričane. Namen predavitve je bil prikazati glavne razloge za izvedbo investicije, obseg investicije, naloge in probleme pri integraciji različnih sistemov ter prikaz tehničnih rešitev.

Namen investicije:

- Novi bolj specializirani proizvodi.
- Izboljšanje kvalitete obstoječih proizvodov.
- Povečanje proizvodnje.
- Izboljšanje energetske učinkovitosti.
- Učinkovita uporaba in vzdrževanje papirnega stroja.
- Učinkovito zbiranje in shranjevanje podatkov o parametrih na strojih.

Izvedena investicijska dela:

- Predelava linije dolgih vlaken s kompletnim čiščenjem in mletjem (vgradnja novih mlinov JC01 – 250kW).
- Nadgradnja linije izmeta s čiščenjem in razvlaknjevanjem (JD01 – 132 kW).
- Vgradnja tlačne mešalne centrale za zmanjšanje nečistoč.
- Kontinuirni kuhalnik kationskega škroba.
- Predelava in dograditev čiščenja v primarnem krogotoku (cevni čistilci, tlačni prebiralniki) ter predelava cevovodov v konstantnem delu.
- Predelava sistema sitovih vod z izboljšanim vmešavanjem snovnih tokov (Lobemix).
- Postavitev novega natoka z razredčevanjem (izboljšan prečni profil gramature).
- Vgradnja novih elementov odvodnjavanja na sitovi skupini.
- Vgradnja zgornjega sita (Duoformer D)

za zmanjšanje dvostranosti papirja in izboljšanje z-profila pepela.

- Vgradnja novih valjev na sitovi skupini.
- Predelava 3. stiskalnice za zmanjšanje vleka papirja na področju stiskalnic.
- Vgradnja stabilizacijskih komor v 2. sušilni skupini (Twinrun) za preprečevanje plapolanja papirja.
- Predelava teka zg. sušnega sita v 5. sušilni skupini.
- Predelava soft-nip gladilnika z vgradnjo novih SYM-CD valjev (hidravlično consko obremenjevanje) za izboljšanje profila debeline.
- Nov merilni okvir QCS z nadgradnjo sistema in dodatno meritvijo optičnih lastnosti papirja, vključno s sistemom arhiviranja podatkov DAA.
- Vgradnja novih pogonov na papirnem stroju z možnostjo obratovanja 1000 m/min na situ, vključno s sistemom PLC za daljinski nadzor.
- Popolnoma nov DCS sistem DNA za pripravo snovi, primarni in sekundarni krogotok, vakuum sistem, gladilnik ter prečno regulacijo gramature in debeline papirja.
- Sistem WIS za nadzor papirja s kamerami (transmisija).
- Novi vodilni valji v sušilni skupini in pri gladilniku ter razpenjalni valji v območju stiskalnic.
- Izgradnja prizidka in nove nadzorne sobe ter strežniškega prostora, vključno z novim stikališčem za elektro pogone.

LETO 2007

- 13. februarja 2007 je nadzorni svet za generalnega direktorja imenoval Andraža Steguja, ki je tako nastopil svoj tretji mandat.
- 22. junija 2007 je bila podpisana gradbena pogodba za izgradnjo novega skladišča gotovih proizvodov, avgusta 2007 pa se je začela gradnja nove skladiščne hale.
- Papirnica je bila 12. oktobra 2007 gostiteljica tradicionalnega Okoljskega dneva Združenja celulozne, papirne in papirno predelovalne industrije Gospodarske zbornice Slovenije.
- Ob rekordni bruto proizvodnji in rekordni povprečni hitrosti 790 m/min smo v letu 2007 na papirnem stroju izdelali 78.616 t neto papirja. V dodelavi smo razrezali rekordnih 13.200 t neto papirja.

Odkrivanje in postopno odpravljanje pomanjkljivosti, ki se jim po tako velikem investicijskem posegu v papirni stroj žal ni mogoče izogniti, se kaže v nihanju skupne izkoriščenosti. 75,5-odstotna skupna izkoriščenost na letni ravni je raven iz leta 2002, ki je bilo tako kot leto 2007 poinvesticijsko leto.

Dobra skupna izkoriščenost stroja ob čim manjših snovnih izgubah in stalni kakovosti je osnovni pogoj za učinkovito proizvodnjo. Skupna izkoriščenost neposredno vpliva na specifično porabo energije, ki zaradi neprestanih dražitev postaja eden od ključnih stroškovnih dejavnikov.

- Agencija Republike Slovenije za okolje in prostor je družbi Goričane, d.d. kot prvi papirnici v Sloveniji izdala okoljevarstveno dovoljenje v skladu z Direktivo IPPC za obdobje desetih let.
- Novembra 2007 je bila podpisana pogodba za nakup novega prečno-rezalnega stroja z vso opremo, ki omogoča tudi rezanje papirja nižjih gramatur.

LETO 2008

- Maja 2008 je potekal zagon novega prečno-rezalnega stroja v dodelavi, s katerim se je kapaciteta rezanja povečala s 14 tisoč ton na 30 tisoč ton letno, in nove pakirne linije za formatni papir.
- Skupni investicijski vložek v tem letu je presegel tri milijone evrov.

Pri proizvajalcu strojev Milltex smo kupili nov prečno-rezalni stroj (PRS 2) in postavili novo pakirno linijo za palete. Ta investicija je pripomogla k bistveno večji količini zrezanega papirja v format, ta pa ima veliko večjo dodano vrednost kot papir v zvitkih.

Prečno-rezalni stroj je imel 6 odvijalnih mest, delovno širino 1600 mm, maksimalno delovno hitrost 300 m/min, 4 vzdolžne nože in avtomatsko menjavo palete. Kapaciteta rezanja je odvisna od vrste papirja, od 21.000 do 75.000 kg papirja na izmeno. Linija pakiranja formata (pakiranje palet) ima teoretično kapaciteto 40 palet/uro oziroma ob običajni proizvodnji približno 20 palet/uro. V sklopu postavitve teh dveh strojev je bilo treba predelati oziroma razširiti

prostore dodelave in prestaviti nekatere manjše dodelavne stroje in naprave.

Prečno-rezalni stroj je omogočal razrez formatov širine oziroma dolžine od 400 do 1600 mm, največja možna obremenitev stroja pa je 600 g/m². Stroj je bil zasnovan za rezanje različnih vrst papirja, saj proizvajalec stroja zagotavlja kakovostno rezanje gramatur od 40 do 150 g/m². Vsako odvijalno mesto je opremljeno s samostojno regulacijo teka papirja. Rezalni del je opremljen s štirimi vzdolžnimi in enim prečnim nožem. Prednost vzdolžnega t. i. sinhro noža je zelo kakovosten rez tudi pri večjih obremenitvah stroja (600 g/m²). Štirje vzdolžni noži omogočajo izdelavo treh palet hkrati (t. i. trojčke). Delovanje paletomata je avtomatsko in optimirano tako, da se med menjavo palet izgubi čim manj listov, menjava polne in prazne palete pa se izvede samodejno. Pakirno linijo je dobavilo podjetje Reker (Nemčija). Linijo sestavlja več tipskih trakov, na katere so postavljene naprave. Te po korakih zapakirajo papir v termoskrčljivo folijo.

LETO 2008

- 31. oktobra 2008 je papirnica Goričane pridobila certifikat FSC® za zagotavljanje trajnostnega gospodarjenja z gozdovi v verigi FSC COC.
- V novembru 2008 so se začela potrebna gradbena dela za širitev skladiščnega prostora. Obstoječe kapacitete so zaradi širitve dodelave v skladiščne prostore postale premajhne. Novi objekt je meril dobrih 4400 m² in je bil namenjen skladiščenju zvitkov in formatnega papirja. Predvidena je bila tudi nadgradnja v regalno skladišče, zato se je že delno zgradila tudi infrastruktura v ta namen.

Novi prečno-rezalni stroj v dodelavi





LETO 2009

- Predelava in razširitev rekuperacije odpadnega zraka iz sušilne havbe:

Sušilna havba je zaradi dotrajanosti postala ozko grlo. Predvidene so bile zamenjava in dograditev glavnih sklopov sistema rekuperacije predušilne skupine ter delna zamenjava in sanacija sklopov v naknadni sušilni skupini.

Glavni sklopi nove postavitve se delijo na prezračevanje sušilnih nap, prezračevanje in ogrevanje proizvodne hale ter ogrevanje skladišča dodelave. Z zamenjavo opreme se je povečala kapaciteta sušenja papirja in zmanjšala količina vlage v sušilni napi in v hali, predvsem v območju od stiskalnic do premaznega agregata.

Poleg tega je bil cilj rekonstrukcije zmanjšanje toplotnih izgub in izgube električne energije, manj pretrgov papirnega traku v sušilni skupini, izboljšanje varnosti pri obratovanju in vzdrževanju ter ustrezna klima v celotni hali papirnega stroja.

Po tehnični in finančni analizi se je vodstvo podjetja odločilo za ponudbo podjetja Metso Paper iz Gorice s podizvajalcem Tip95.

Predaja del enemu samemu podjetju je omogočila kakovostno izvedbo dejavnosti brez nepotrebnih zastojev in usklajevanja med posameznimi izvajalci. Oddelek elektronike Goričane pa je z lastnim znanjem in izkušnjami pripravil program krmiljenja in nadzora celotnega sistema ter program vizualizacije.

Papirni stroj je leta 2009 obratoval s hitrostjo do 950 m/min na navijalniku brez kakršnih koli problemov pri delovanju rekuperacije.

Modernizirana rekuperacija odpadnega zraka je doprinesla k boljšemu izkoristku vložene energije oz. znižala porabo sveže pare.

S tem projektom so se izboljšali klimatski pogoji v sami sušilni skupini, pridobili smo več energije za ogrevanje sveže vode in dvignila se je točka rosišča. Izboljšale so se tudi mikro klimatske razmere v hali PS.

- V letu 2009 smo posodobili tudi stari PRS Jagenberg, kar je ponovno povečalo kapaciteto razreza v format. Omogočil se je dodatni razrez nizkih gramatur, kar je v tistem trenutku pomenilo bistveno

prednost na tržišču. Povpraševanje po formatu je namreč naraščalo hitreje, kot je bilo načrtovano v razvojnem planu podjetja.

- 14. novembra 2009 je bil v papirnici Goričane organiziran dan odprtih vrat za družinske člane zaposlenih.

Proizvodnjo in podjetje si je tisti dan ogledalo več kot sto družinskih članov zaposlenih.

- Leta 2009 je družba zabeležila rekorden dobiček v višini 4 mio EUR.



Nova rekuperacija

LETO 2010

- Zaključila se je zadnja faza širitve skladiščnega prostora. Sledilo je obdobje manjših investicij, povezanih z obratovalnostjo papirnega stroja (novi vodilni valji, nove obloge valjev, razpenjalni valji, medfazne skladiščne posode), modernizacijo krmilnih in nadzornih sistemov (razni merilniki, nadzorni sistemi, laboratorijska oprema), varovanjem okolja (spremljanje črpanja in porabe vode) in zagotavljanjem ustreznega delovnega okolja.
- Skozi vse leto smo intenzivno izvajali projekt ZEROEF v okviru projekta Eureka.

LETO 2011

- V letu 2011 se je zaradi potreb prodaje kupila nova linija za ploski obrez formatnega papirja. Novi ploski rezalnik Polar 137 X je opremljen z avtomatsko dvizno, tresalno in zlagalno napravo. S to linijo smo zagotovili boljšo kakovost, prilagodljivost in odzivnost na povpraševanje po formatnem papirju. Hkrati z linijo za ploski razrez formatnega papirja pa se nam je izpolnila še ena dolgoletna želja. V sklopu nakupa omenjene linije smo dobili tudi obračalnik palet s prepihalnikom, ki so ga naši sodelavci sami uspešno usposobili in aktivirali.



Ploski rezalnik Polar 137 X

LETO 2012

- S povečevanjem količin formatnega papirja se je krepila tudi želja po razrezu formatnega papirja v drug format, zlasti zaradi fleksibilnosti, manjših naročil in manjših zalog. Načrt se je uresničil februarja 2012 z zagonom plosko-rezalnega stroja, ki so ga postavili in zagnali naši sodelavci iz vzdrževanja. Zaradi povečanih potreb po razrezu formatnega papirja smo uvedli tudi dodatno izmeno za razrez papirja.
- Septembra smo uspešno zaključili servis parne turbine v energetiki, ki se izvaja vsakih 10 do 15 let.
- Največja investicija v proizvodnji pa je bila vsekakor menjava linije 1 za razpuščanje celuloze, ki deluje že od leta 1975. Cilj prenove je bil zagotoviti najsodobnejši razpuščevalnik s popolnoma avtomatiziranim ciklusom razpuščanja listavcev in iglavcev na eni liniji. V projekt so bila vključena številna podjetja iz Švedske, Slovenije, Avstrije in Nemčije. Zagon linije in avtomatizacija procesa sta bila izvedena z lastnim znanjem naših tehnologov in vzdrževalcev. Projekt je bil vreden 0,5 mio EUR.



Na levi nova linija 1 za razpuščanje celuloze

LETO 2013

- Je bilo eno težjih let v poslovanju družbe, vendar je družba kljub temu investirala in se razvijala.

V letu 2013 je bila zaradi še večjega povpraševanja po formatnem papirju izvedena še ena investicija v povečanje kapacitete razreza PRS1. Dogradila sta se še dva odvijalnika, vsem odvijalnim postajam pa so se dogradili novi vodilni, razpenjalni in poravnalni valji ter avtomatsko pozicioniranje zvitkov. To omogoča učinkovitejši razrez predvsem nizkogramskih papirjev, ki so predmet naraščajočega povpraševanja na trgu.

- Družba je uvedla nov certifikat PEFC™ za zagotavljanje trajnostnega ravnanja z gozdovi z željo po še večji ozaveščenosti vseh, ki so vključeni v oskrbovalno verigo lesa in lesnih izdelkov.

LETO 2014

- Aprila smo v energetiki začeli s pripravljalnimi deli za montažo novega ekološkega in sodobnega parnega kotla nemškega proizvajalca Bosch z nazivno kapaciteto 25 ton nasičene pare na uro.

Sam kotel ima zelo visok izkoristek (97,5 %), z dodatnima toplotnima izmenjevalcema za predgrevanje napajalne vode in zgorevalnega zraka pa teoretično presega 100 %. Celotna investicija je bila vredna 1,2 mio EUR in prinaša vsaj 25 % prihranek pri porabi energentov, posledično pa tudi manjše izpuste CO₂. Poleg tega se obratovanje kotla popolnoma prilagaja potrebam proizvodnje po pari.

To je bila prva večja investicija v energetiko v zadnjih 40 letih. Investicija je bila tako ekonomsko kot tudi okoljsko naravnana.

- Investicija v transport odrezka v oddelku dodelave:

Zaradi povečanega razreza formatnega papirja se je v tem letu moderniziralo tudi linijo za transport odrezkov. S tem je bila omogočena fleksibilnost razreza papirja v dodelavi ne glede na vrsto papirja na PS.



Nov parni kotel v energetiki

- Predelava 20 kV razdelilnika in nov kablovod:

Papirnica Goričane je med večjimi odjemalci električne energije, saj mesečna poraba presega 4 GWh. Do leta 2013 je oskrba tovarne z električno energijo potekala po dveh kablovodih s srednjo napetostjo 20 kV. Najbolj viden je priklop tovarne na energetske jambor daljnovoda med Medvodami in Škofjo Loko, na robu nad tovarno. Prek tega zračno-zemeljskega voda se tovarna oskrbuje z električno energijo že vse od 60-tih let prejšnjega stoletja. Na tem vodu smo omejeni na največ 7,3 MW odjema električne moči. Drugi kablovod je v celoti položen v zemljo in Goričane preko »Avtofilter« (Sogefi) povezuje z javnim elektro omrežjem. Navedeni dovod je bil postavljen pred dobrimi 10 leti in dopušča odjem več kot 4 MW električne moči. Zaradi odločitve o nakupu novega parnega kotla se je bilo treba pripraviti na ustrezno povečan in stabilen odjem električne energije iz javnega energetskega omrežja. Z novim kablovodom je tovarna dobila še tretji dovod za oskrbo z električno energijo. Za priklop novega dovoda

je bilo treba izdelati novo, tako imenovano visokonapetostno (VN) celico, hkrati pa smo delno posodobili ostale elektro-energetske naprave v 20 kV razdelilniku.

- Novi kablovod, ki dopušča odjem preko 8 MW električne moči, in nova oprema v našem RTP prostoru omogočata stabilnejšo in zanesljivejšo oskrbo papirnice Goričane z električno energijo.
- Poleg teh investicij se je v letu 2014 moderniziralo tudi računalniško omrežje v proizvodnem procesu.
- Na okoljskem področju je bila v letu 2014 izvedena prilagoditev sledljivosti izvora lesa po direktivi EUTR. Vzpostavljene so bile nove zahteve glede sledljivosti lesa in sistema potrebne skrbnosti dobavne verige po FSC-DIR 40-004 in PEFC ST 2002:2013.
- Družba Goričane je v mesecu avgustu s finančnimi upniki sklenila dogovor o prostovoljnem oziroma preventivnem finančnem prestrukturiranju obveznosti družbe za obdobje 2014–2017.

LETO 2015

- V letu 2015 se je zaradi vedno strožjih zahtev kupcev in možnosti izvajanja vhodnih kontrol surovin investiralo v nakup laboratorijske opreme, ki zagotavlja kontinuirano vhodno kontrolo surovin, boljše izvajanje dnevnih meritev kakovosti izdelanih papirjev in hitrejši odziv na pripombe kupcev v zvezi s kakovostjo.
- Na papirnem stroju pa je bil čas za zamenjavo elementov odvodnjavanja in posodobitev čistilnih elementov v konstantnem delu. Ti investiciji zagotavljata boljši tek stroja, manj pretrgov in manj nečistoč v osnovnem papirju.
- Modernizirala se je tudi linija za obdelavo izmeta. Dogradil se je nov razvlaknjevalnik.
- 14. 10. 2015 je NS za generalnega direktorja družbe imenoval Andraža Steguja, ki je tako nastopil že svoj peti mandat.

LETO 2016 in naprej

- Družba za leto 2016 načrtuje začetek projekta postavitve biološke čistilne naprave.



Nova laboratorijska oprema

ZAKLJUČEK

Zgodovinski pregled razvoja papirnice v Goričanah je slikovit prikaz, kako na daljnoročni uspeh neke družbe v hitro se spreminjajočem se okolju vplivata predvsem dva dejavnika.

Prvi dejavnik je zagotovo tehnologija oziroma sposobnost družbe, da sledi ali celo prehiteva pričakovanja kupcev in razvoj pri konkurentih. Prikaz tehnološkega razvoja skozi čas jasno kaže, kako dinamično se razvija ta starodavna obrt priprave papirja. Prikaz dokazuje, da je vse, kar je še ostalo od nekdanjih tehnologij in postopkov izjemna cehovska pripadnost vseh, ki so vključeni v procese vezane na proizvodnjo papirja in njihova ljubezen do tega žlahtnega proizvoda.

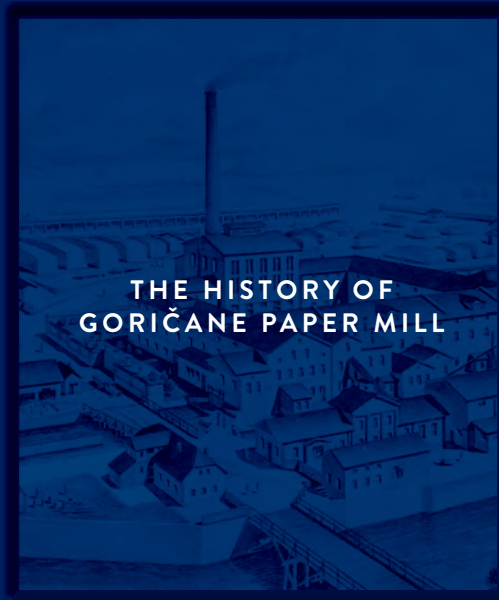
Drugi dejavnik pa je podjetniški pogum. Ta prikaz je dokaz, da so se v teh krajih vrstile generacije podjetnikov,

investitorjev in upravljalcev, ki so verjeli v sposobnosti te konkretne lokacije, da ne le preživi, ampak, da predstavlja nekoč evropski, danes pa svetovni vzor papirniški industriji. Določeni koraki naših predhodnikov so bili presenetljivo pogumni in predvsem taki, ki se niso uklanjali prevladujočemu razmišljanju. Zato danes sploh lahko praznujemo štiridesetletnico zagona papirnega stroja, ki je v tistem trenutku predstavljal presenečenje za vse dobro in malo manj dobronamerne opazovalce. Ta zgodovinski prerez pa kaže tudi, da podjetniški pogum ne more obroditi sadov brez ustreznega kapitalskega zaledja.

To so izkušnje papirničarjev, ki ta trenutek vodijo, upravljajo in ženejo naprej Goričane. Zato je popolnoma jasno, da bodo morala biti poročila za leta, ki prihajajo, prav tako ali pa še bolj polna poročil o tehnoloških in drugih inovacijah. Snujejo se že danes in z veseljem in navdušenjem jih pričakujemo.

prva izbira med dobavitelji
specialnih papirjev





THE HISTORY OF
GORIČANE PAPER MILL

Goert's chouch

The Goričane papermill watermark from 1838.

THE HISTORY OF GORIČANE PAPER MILL



GORIČANE

HISTORIC MONOGRAPH

The history of Goričane paper mill

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PAPER, A THOUSAND- YEAR LEGACY



Paper is a lot more than just a refined and improved piece of pulp. Paper is the basis for the development of civilizations, it is every papermaker's joy and something that is inconspicuously experienced by every human being and it represents a history of papermaking in its own way.

This historic monograph, which you are holding in your hands, is the work of our former colleague Darko Cafuta and it is first and foremost a story about dramatic entrepreneurial and ownership twists in the long history of what we call today Goričane, paper factory Medvode. This »winding« story pertaining to technological advancements and investments is similar to the way the paper winds around the cylinders of the paper machine. And this is a suitable way to phrase it. Because paper is, even though it may seem as something simple and self-evident to its user, in its essence the result of an extremely complex technological and business process.

This historic overview by Darko Cafuta demonstrates the correlation of technological improvements and the ability to control the entire business process. It describes the interdependence of technology and the ability to manage the uncontrollable situations, such as the dependence on global social changes. The first developmental advancements of the former Goričane were indeed triggered by the early technological demands of industrialization and hindered by the capital constraints of the environment. However, neither the conflicts of the First and the Second World War and nor the social changes like the big economic crisis of the 20th century or the independence of Slovenia were the types

of events that were controllable by the Goričane's management of the time. This is the nature of entrepreneurship. We try to introduce competitive technology and surpass our competitors while striving to foresee the market needs and potential technological changes. Nonetheless, there is always something that we cannot influence and thus we need to accept that as a fact and strive to adjust accordingly.

People who manage the economic companies are by definition inclined to progress. No success of the past guarantees the success of the next step and no mistake of the past, which we have withstood, prevents us from making successful decisions either in the present or in the future moments. Regardless of this entrepreneurial attitude of not being trapped in the past, it is nevertheless more than useful to understand that we are not the first who tackle a particular issue.

Papermakers are fortunate to be able to learn from the experiences of the whole range of predecessors that date back all the way to the second century B.C. The first paper production process was then supposedly invented by Cai Lun from the Chinese Han dynasty. This invention gradually made its way through the Middle East all the way to Europe where we got the first water-powered paper mills in the 13th century. Subsequently, Gutenberg's invention of printing

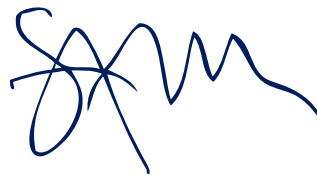
press caused the demands for paper to skyrocket. During the Renaissance, paper became the principal knowledge transfer and knowledge transfer became the fundamental component in the development of civilizations.

Of course the story of paper is certainly not idyllic as we can also learn from this monograph. The unpredictable events of different sorts have occurred in a number of different ways and areas and will most certainly continue to occur in the future. We all remember how people were predicting the downfall of paper when computers were introduced. It was predicted that the importance of writing on papers would decrease as the information were stored on computer discs. These dramatic predictions have never come true. Quite the opposite. The more we introduce computerized business, the larger paper quantities are required due to the increased numbers of printers. The next threat is supposedly coming from the e-books and internet media that are presently on a huge increase. On the other hand, though, there are analyses that undisputedly prove that memorizing information by utilizing paper is much more efficient than memorizing the contents which we access by using electronic screens. We have to be aware that in this case the real goal is not the paper. The real goal is the human being and how he or she

can spend his available leisure time in a quality way. Perhaps it is too boldly if we say that paper is eternal. However, for sure it will not just disappear overnight.

As the managing director of the Goričane company, I certainly should not be carried away by excessive optimism. I always have to conduct risk assessments and check the potential hazards coming from the competitors, technological trends and social changes. However, as a papermaker who is aware of the rich history of paper, not only do I feel the economic but also the indescribable power which originates in this remarkable material with such a rich history, full of powerful stories, eventually influencing us, the papermakers.

I wish you a pleasant experience when reading and studying this monograph and also many rewarding moments with paper in the future.

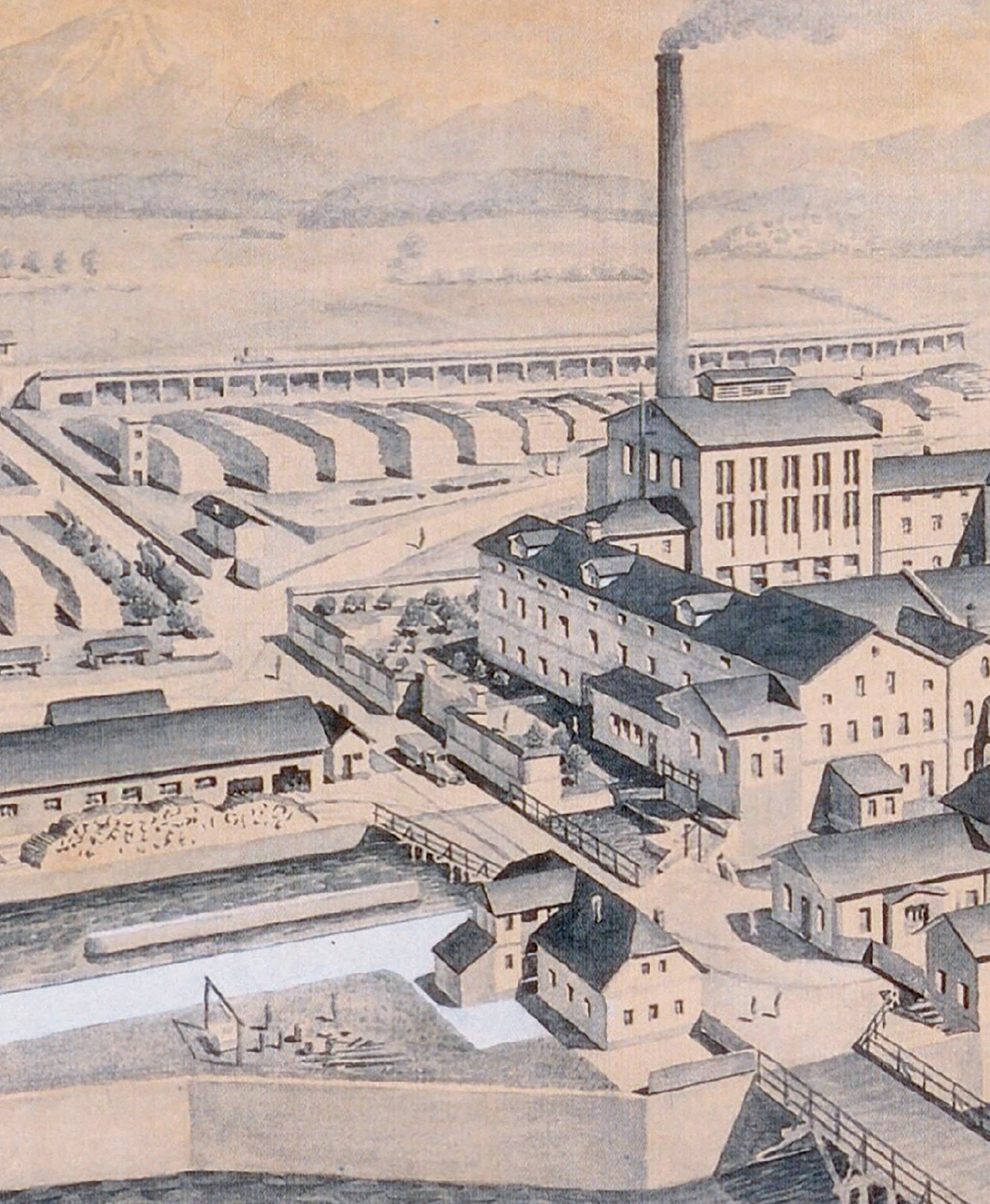


Andraž Stegu,
Managing Director

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THE HISTORY OF GORIČANE PAPER MILL

DARKO CAFUTA

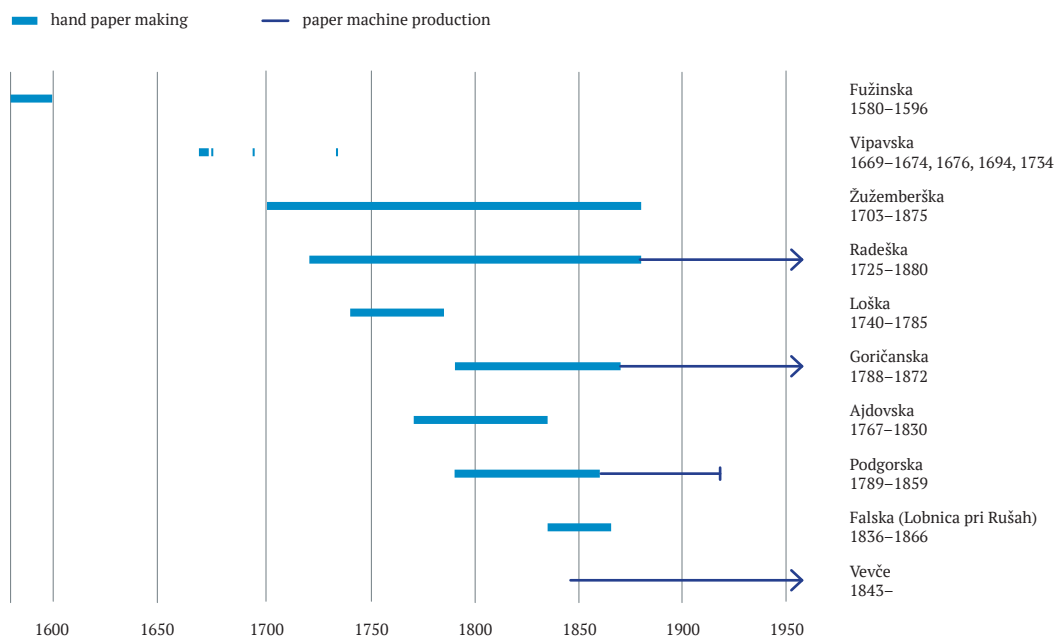
*On the territory of the present Slovenia, the paper
crafts developed simultaneously with Europe and
also in a very dynamic way.*

*The pulp and Lignosulfonates factory Goričane in 1933
(J. Karlovšek)*

THE HISTORY OF SLOVENIAN PAPER MILLS WITH MANUAL PRODUCTION

Only the Goričane paper mill and the Radeče paper mill, as two of the previously eight paper mills with manual production in Slovenia, have withstood the test of time. Some of those who went bankrupt had only operated for a short period of time.

The oldest paper mill in Slovenia, the Fužine papermill from Zgornja Hrušica pod Ljubljano, only operated for 16 years (1580-1596). In the second half of the 17th century, the paper mill from Hubelj nad Ajdovščino (from the Vipava Valley) also operated for a couple of decades. The paper mill in Žužemberk operated from 1701 until 1870 after having eventually gone bankrupt due to the competition of the industrial papermaking which became prevalent at that time. The Radeče paper mill from Njivice pri Radečah began its activity around 1725 and it became an industrial paper mill in 1854.⁽¹⁾



Demonstration of the transition from the manual papermaking to the industrial papermaking

Loka's paper mill in a village Papirnica pri Škofji Loki

The Goričane paper mill has its origins in Loka's paper mill which was founded in 1740 in present-day Papirnica pri Škofji Loki. The paper mill was built near the source of the creek that used to be called Mrzli potok.⁽²⁾ It operated at that location until 1785. The stream, however, could propel only one water wheel which was insufficient if the papermaker wanted to increase his production. In 1785 Johann Schwerer, the owner of the paper mill, therefore decided to build a bigger paper mill.

Goričane paper mill in the village of Ladja

The papermaker Schwerer found a new location in Sora pod Goričanami where there was already a dam and a gristmill.⁽³⁾ He had been building until 1787 when he ran out of the necessary money for the constructing and equipping the paper mill with the required papermaking devices. He met a prominent merchant from Ljubljana, Anton Domian, who was inclined to invest money in the Goričane paper mill. In 1788, the production took up and Schwerer was able to refund his debt to Domian due to the successful paper supply.

The history of other Slovenian paper mills with manual production

During that time, there was another paper mill operating in Slovenia. In the Goriška region, Tomaž Kumar set a true manufacture in 1767 in the town of Ajdovščina. It was so successful that by 1769 it had already produced 12 different types of paper. It soon became one of the best paper mills in Inner Austria. The main marketplace of the Goričane paper mill was the Carniola region. Additionally, it also exported some products to Styria.

Roughly at the same time when the Goričane paper mill started to operate, there was another paper mill which started with its production. That one was located in Podgora pri Gorici by the Soča river. Although presently not located in Slovenia, that paper mill used to be part of the Slovenian ethnic space and nowadays we can still find a Slovenian minority there.

The last paper mill with manual production, which started to operate when paper machines had already been installed in Austrian lands, was the Fala paper mill in Lobnica pri Rušah. It was founded in 1836 by Dr. Hartnagel, a lawyer from Maribor. After he passed away in 1838, the paper mill went bankrupt after three decades of struggling because it could not cope with the increasing competition of the industrial papermaking factories.

HISTORY OF GORIČANE PAPER MILL ON MAPS

The oldest map where we can see the Goričane paper mill

The paper mill (Papier Mühle) is situated on the left bank of the Sora river located below the village of Ladja. By 1787 the actual paper mill building had already been constructed. However, it did not have the devices and tools to produce paper yet. Military cartographers did not leave any documents that would reveal if the paper mill was already entirely completed and whether it was already in operation. They only wrote that the gristmill on the right bank of the Sora and the paper mill on the left bank were built facilities at the time.

*An excerpt from a military plan showing
the lands of Inner Austria (1785–1787)*

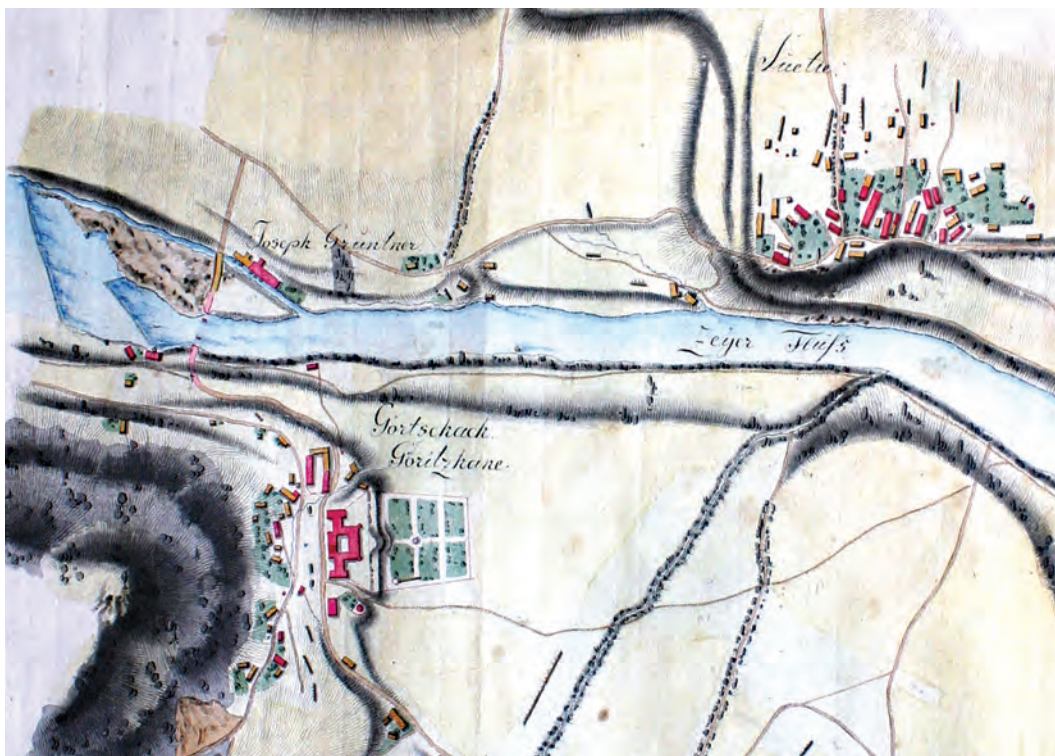


60 years of the paper family Grundner

In 1800 the Grunder family took over the Goričane paper mill and remained its owner until 1863. Until 1829 Jožef Grunder had managed the paper mill and from then on it was Werner Grunder who was in charge of it. In 1844 the paper mill was already a modern manufacture with advanced equipment that employed 27 workers.

A map of the Sora river basin has been preserved dating back to 1809 where we can see Grundner's paper mill.

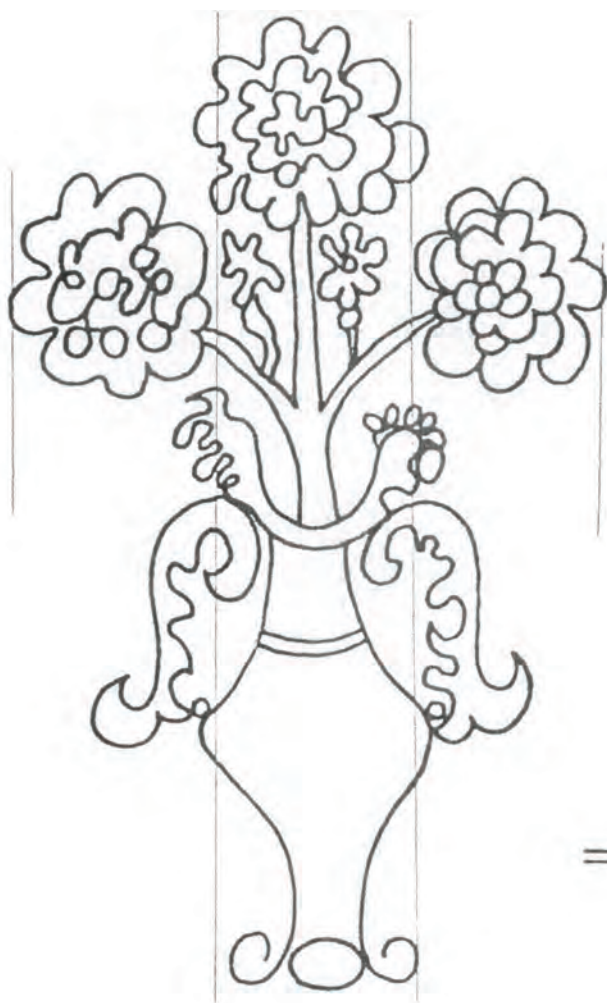
The Sava river basin (including parts of the Sora river basin): Scherouitz/Žerovic 1807: with the inscription at the paper mill saying: Joseph Gruntner; Goričane Castle (Görtschach, Goritzhane); the Sora River (Zeijer Fluss).



WATERMARKS OF GORIČANE PAPER MILL

16

GORIČANE PAPER MILL

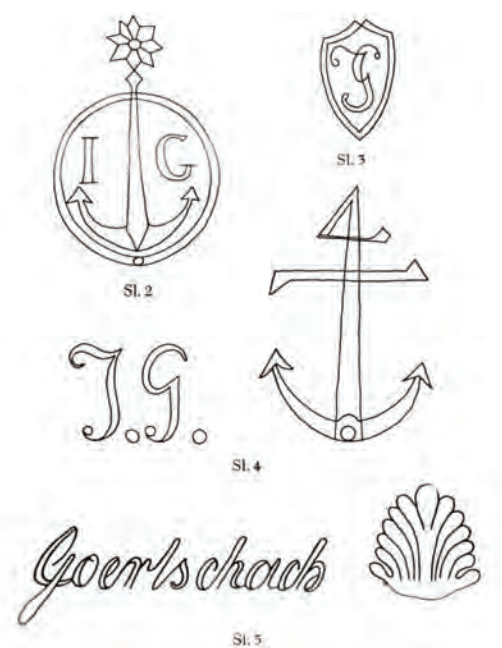


[right]
= A.D.

Oldest published watermark

The oldest published watermark of the Goričane paper mill was by Georg Eineder in the book entitled: *The ancient Paper-Mills of former Austro-Hungarian Empire and their Watermarks*. The book was published in Hilversum, Netherlands in 1960.

The document with this watermark from 1799, produced on the paper by the Goričane paper mill, was sent from Goričane to Vienna and is preserved in the archives of the Vienna Court Chamber. There are the A.D. initials on the right side of the watermark of »a rose in a vase« and these are the initials of Anton Domian, the prominent merchant from Ljubljana who invested money in the purchase of the papermaking equipment.



*These watermarks of the Goričane paper mill were collected by Dr. Jože Šorn who subsequently published them in *Zgodovinsko časopisje* 1958–1959.*

Watermarks date from the era of a papermaking master Jožef Grunder who owned the paper mill between 1800 and 1829. The only exception is the watermark on the photo 5 (Goertschach = Goričane) which was made at the time of a papermaking master Werner Grundner (1829–1863).

Sl. 2. The watermark of Jožef Grundner. I saw it for the first time in a document dating back to November 5th 1806 and then again in a document with the date of November 7th 1817. It shows the anchor version (a symbol of hope) with the initials I.G. or J.G. right in the middle of the watermark. For now, the first date represents to me the terminus ante quem for Jožef's ownership of the mill and confirms the general ownership of the Grundner family. This is a true example of how precisely the date of the document and the watermark can lead us to a possible »discovery« of a mill used for paper! (I came across a similar example at the Pankrac or the so-called protestant mill for paper). Just like now, I was also then able to determine the year 1579 as the beginning of production – and I was able to do this by the help of the date and watermark. Sl. 3. the watermark of Jožef Grundner from 1825. In the middle of the watermark we can see the initials J.G. on the shield. Sl. 4. the watermark of Jožef Grundner from 1827. In the middle part of the left side we can see the anchor version while there are the J.G. initials on the right. Sl. 5. The watermark of the Goričane mill used for paper from 1838. There is the name Goričane on the left and in the middle on the right there is a shell. Because there are no initials I cannot tell whether this watermark and mill still belong to Jožef or perhaps they already belong to Werner Grundner.

INDUSTRIAL PAPERMAKING, MECHANICAL WOOD PULP AND PULP PRODUCTION

In 1843, the paper machine at a newly established paper mill in Vevče produced the first paper. All of a sudden, the paper mills relying on manual papermaking had to face the following dilemma: they had to either equip themselves with a paper machine or they were bound to go bankrupt.

In 1854, the Radeče paper mill succeeded in constructing a simple paper machine without a drying section. However, this was only a partial solution.

In Goričane, Stanislav Grundner took over the paper mill but its debts continued to increase. In 1863, the Goričane paper mill was financially ruined and consequently had to be put up for auction. Fidelis Terpinč, representing the owners of the paper mill from Vevče, was the eventual buyer. It continued to operate under new ownership.

It was very important for the future that a pulp factory was founded in Goričane in 1890 which produced pulp using

the Ritter-Kellner procedure. This is an important piece of information not only due to the technological innovation but also because the production was based on this technology up until 1922 when the factory stopped producing pulp. Therefore, we can speak about 102 years of continuous operation.

The Rittner-Kellner procedure was invented by a baron Ritter von Zahony and a chemist Karl Kellner representing the Podgora paper mill which had been owned by Baron Ritter since 1859. This industrial paper mill became famous worldwide for this innovation. The innovation is based on the pulp coating procedure in accordance with the sulphite procedure which uses a direct steam heating system. In 1883, as a result of the extremely successful procedure, the inventors received a »privilege« (the word used for a patent at the time) for the production of sulfite pulp. The paper mill in Podgora continued to operate until the First World War when it was eventually destroyed.

GORIČANE PAPER MILL AS A PLANT OF THE VEVČE PAPER MILL

After the Goričane paper mill had been taken over by the Vevče paper mill, Stanislav Grundner continued to manage the Goričane manual paper making plant which eventually burned down in 1865. However, since the paper mill was insured they were able to start with the construction of a new factory already in the same year. The first data proving that the Vevče paper mill was producing mechanical wood pulp in its plant in Goričane date back to 1870.

Fidelis Terpinč bought water rights on the Sava river in Medvode and Verje already in 1858. By 1866, wood grinder had already been constructed in Medvode and in 1868 they started to construct a wood grinder in Verje. In 1870 mechanical wood pulp was therefore produced in three plants: in Goričane, Medvode and Verje.

After purchasing the Goričane paper mill, Terpinč wanted to connect his factories by establishing a joint stock company. However, he gave up his idea because he had neither the successors nor the suitable cooperators or investors.

THE ERA OF THE LEYKAM PAPER INDUSTRY

After the purchase, the stock company was named »Leykam-Josefsthal A.G. für Papier und Druckindustrie, Wien«.

Josefsthal was a German name for the Vevče paper mill. The story tells that Terpinč named the paper mill after his wife Jožefina. The Slovenian name was Jožefov dol.

The stock company Leykam, which had 2 million guildens in capital at the time of the purchase, bought the Vevče paper mill and the plants in Medvode, Verje and Goričane for 1,300,000 guildens. Half of the purchase price was paid in cash and the other half in stocks.

On the first shares, issued by a new stock company, we can see the company's factories. Among the enumerated, these are the Slovenian ones:

- Zwischenwässern = Medvode
- Janezia = Janezija, the paper mill on the left bank of the Ljubljanica River in Vevče
- Virje = Verje pri Medvodah
- Görtschach = Goričane
- Josefsthal = the first Vevče paper mill on the right bank of the Ljubljanica River

Of the Styria factories, two of them are mentioned: Graz and Gratwein.



A share of »Leykam-Josefsthal A.G. für Papier und Druckindustrie, Wien« stock company, worth 200 guildens

THE FIRST PAPER MACHINE IN GORIČANE (1872–1931)

The first references about paper production and the paper machine in Goričane occur no earlier than 1879 despite the information that the paper machine had already been built in 1872.

Mechanical wood pulp was used as a raw material both in Vevče and Goričane and some of it was also used in Verje where they set up their paper machine in 1889. This paper machine was permanently shut down after a wood grinder and a paper mill in Verje had burned down in 1910. They were sending the rest of the mechanical wood pulp to Leykam's paper mills in either Graz, Austria or to Podgora pri Gorici.

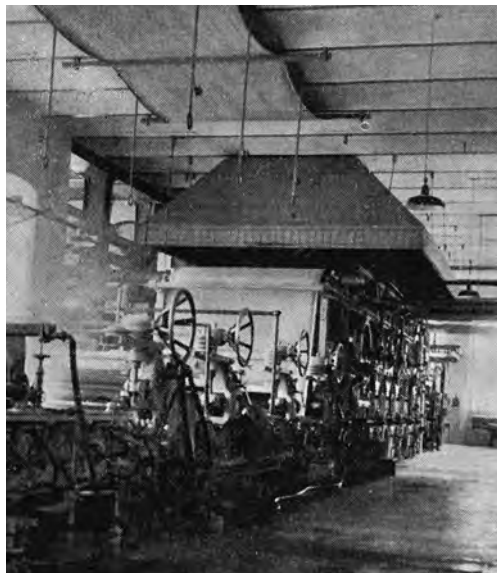
In 1890, the wood grinder and the paper mill in Verje employed 70 workers, 79 workers were employed in Medvode and the Goričane paper mill and wood grinder employed 163 workers.

No photo of the original »G« paper machine from Goričane has been preserved. To get a better idea about the appearance of the first paper machine, we have to help ourselves with the photo of the »J« machine from Vevče.

Technical data about the first paper machine

Already in 1871, Leykam-Josefsthal asked the local district board in Ljubljana to issue a permit for the purposes of running the wood grinder and paper production in the plants of Medvode and Goričane. The permit was received on February 28th 1871.

From the report of the Chamber of Commerce and Craft from 1870 we can learn only about the water power in Goričane: two water wheels, each with 80 hp, that propelled two wood grinders. In order to start up the paper machine, a new steam boiler had to be built and the machine had to be propelled by a steam engine.

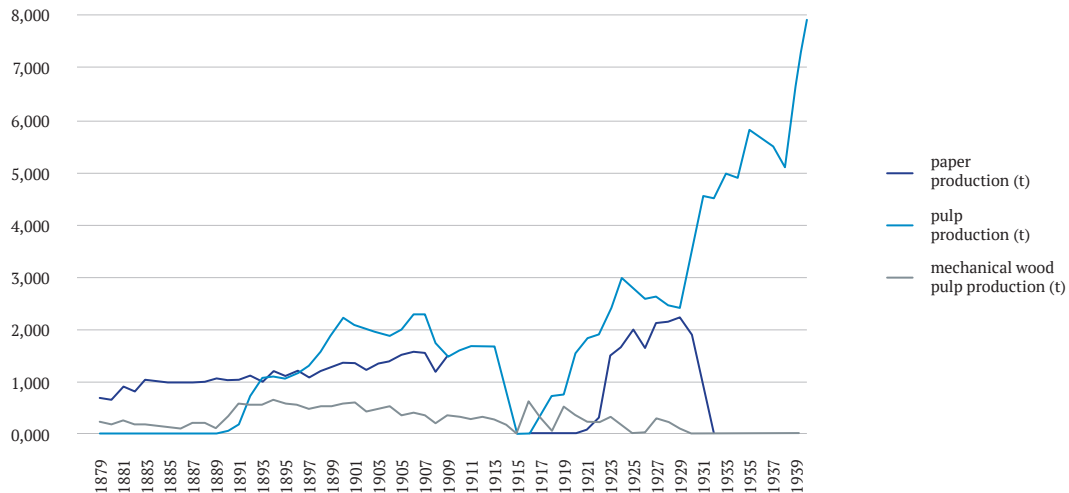


The first data about the paper machine are only available from 1905. That is when they were already using a new water turbine with 320 hp to propel the machine. This turbine was installed in 1889 when they decided that they would rather use the turbine instead of water wheels. The turbine was made by Ganz & Co. from Budapest. They also added a dynamo machine with the voltage of 100 V and 160 A which was made by Siemens-Halske from Vienna.

The paper machine was a product of the machine factory from Leobersdorf in Lower Austria and the operating width of the machine with bottom wire amounted

to 142 cm. In the factory, there was also a machine for cardboard production with the operating width of 80 x 100 cm. Also, there were already 3 wood grinders in Goričane at that time.

In 1886 they built a satining facility and also constructed a paper hall to the adjacent paper machine building. Additionally, they also installed new steam boilers because they needed additional drive for the new machines in the finishing department. In order to achieve more power, they used new steam engines. In 1888, they constructed the first calender, made in the machine factory from Leobersdorf.



In 1905, they produced 4,000 kg of printing and kraft paper, 2,000 kg of mechanical wood pulp and cardboard and 7,000 kg of pulp. The data on paper production in Goričane paper mill are available for the period between 1879 until the shutdown of the paper machine in 1931 (see the table and the chart).

Proizvajni podatki

obratov Vevče, Goričane in Medvode.

Leto	Vevče		Goričane			Medvode	Skupna produkcija papirja
	Produkcija papirja	Produkcija lepenke	Produkcija papirja	Produkcija celuloze	Produkcija lesovine	Produkcija lesovine	
1871	137,1426 vag.	.	.	.	.	.	.
1872	165,1970 "	.	.	.	.	.	.
1873	167,6598 "	.	.	.	.	.	.
1874	170,7696 "	.	(Podatki se niso dali več ugotoviti)			(istotako)	.
1875	173,5220 "	.	.	.	.	.	.
1876	172,3905 "	.	.	.	.	.	.
1877	176,0933 "	.	.	.	.	.	.
1878	186,4991 "	.	.	.	.	.	.
1879	171,9026 "	.	68,0917 vag.	.	22,4749 vag.	.	239,9943 vag.
1880	209,2734 "	.	64,6645 "	.	16,7800 "	.	273,9379 "
1881	228,8516 "	.	89,0120 "	.	25,9874 "	.	317,8636 "
1882	226,5122 "	.	80,7216 "	.	18,1313 "	.	307,2338 "
1883	226,1907 "	.	101,5293 "	.	16,3317 "	.	327,7200 "
1884	223,7590 "	.	100,5027 "	.	15,7455 "	.	324,2617 "
1885	225,9819 "	.	98,4502 "	.	11,5976 "	.	324,4321 "
1886	222,2093 "	.	97,4306 "	.	10,9956 "	.	319,6399 "
1887	228,0712 "	.	96,3450 "	.	20,6397 "	.	324,4162 "
1888	250,3247 "	.	100,5782 "	.	19,8814 "	.	350,9029 "
1889	269,0570 "	.	103,9335 "	(Nova turb. mont.)	11,0261 "	.	372 9905 "
1890	327,0655 "	.	102,0609 "	5,3310 vag.	31,4872 "	.	429,1264 "
1891	362,0380 "	.	102,0595 "	18,7064 "	57,2498 "	.	464,0975 "
1892	376,3379 "	(Stroj za lepenko zgrajen)	109,8978 "	73,5766 "	54,2215 "	.	486,2357 "
1893	381,5289 "	8,9050 vag.	100,6543 "	107,5219 "	56,1190 "	.	482,1832 "
1894	401,8820 "	9,1400 "	118,6566 "	109,1945 "	64,8780 "	.	520,5386 "
1895	254,1160 "	12,0650 "	109,2082 "	105,9900 "	56,8019 "	.	363,3242 "
1896	219,5153 "	.	119,5086 "	114,0300 "	53,7812 "	.	339,0239 "
1897	525,7047 "	3,9650 "	107,8319 "	128,8900 "	47,5400 "	.	633,5366 "
1898	542,1955 "	16,9978 "	119,3934 "	156,9300 "	51,2200 "	.	661,5889 "
1899	604,9701 "	16,1500 "	127,4437 "	189,2800 "	52,9532 "	.	732,4138 "
1900	613,0432 "	7,4769 "	134,0391 "	226,0200 "	58,5000 "	.	747,0823 "
1901	696,6526 "	13,7673 "	134,8310 "	206,1223 "	59,3243 "	.	831,4836 "
1902	737,9926 "	9,0312 "	122,1875 "	200,1141 "	42,4547 "	.	860,1801 "
1903	707,8810 "	11,7093 "	133,7506 "	192,1504 "	48 5544 "	.	841,6316 "
1904	789,7960 "	14,5337 "	140,0431 "	188,0251 "	51,5438 "	.	929,8391 "
1905	812,3636 "	13,1800 "	150,8232 "	199,4699 "	35,8199 "	.	963,1868 "
1906	835,1631 "	16,8562 "	158,2427 "	225,8612 "	39 4572 "	.	993,4058 "
1907	863,3005 "	21,5090 "	153,5833 "	227,2039 "	36,0566 "	.	1016,8838 "
1908	765,0102 "	16,0119 "	118,1663 "	171,1052 "	20,9824 "	100,3000 vag.	883,1765 "

Leto	Vevče		Goričane			Medvode	Skupna produkcija papirja
	Produkcija papirja	Produkcija lepenke	Produkcija papirja	Produkcija celuloze	Produkcija lesovine	Produkcija lesovine	
1909	974,7824 vag.	16,5243 vag.	147,4787 vag.	180,4400 vag.	35,4885 vag.	122,6531 vag.	1122,2611 vag.
1910	891,6107 "	16,5876 "	160,0562 "	213,7972 "	32,9456 "	143,3414 "	1051,6669 "
1911	1049,7715 "	12,4347 "	168,0185 "	182,5779 "	27,2846 "	139,5331 "	1217,7900 "
1912	814,9964 "	9,7146 "	166,8137 "	182,4920 "	33,4324 "	142,9368 "	981,8101 "
1913	853,2845 "	5,3744 "	168,2194 "	192,5836 "	27,1856 "	130,7221 "	1021,5039 "
1914	487,3390 "	6,1735 "	78,2214 "	102,5923 "	18,0568 "	87,0702 "	565,5604 "
1915	184,7251 "	1,0418 "	.	.	9888 "	.	184,7251 "
1916	278,0949 "	.	.	.	61,4965 "	83,0865 "	278,0949 "
1917	174,1645 "	.	.	31,7061 "	28,9317 "	48,4170 "	174,1645 "
1918	259,9299 "	.	.	71,5481 "	4,8629 "	36,5150 "	259,9299 "
1919	398,1885 "	.	.	75,1899 "	53,3482 "	44,7700 "	398,1885 "
1920	556,8112 "	.	.	154,2405 "	34,3573 "	50,4272 "	556,8112 "
1921	445,5725 "	(Nova velebrustil- nica zgrajena)	8,6828 "	181,6515 "	23,2584 "	99,9350 "	454,2553 "
1922	617,1056 "	.	28,9336 "	189,0909 "	21,7569 "	98,8038 "	646,0592 "
1923	702,2356 "	lesovina :	149,1907 "	238,6974 "	31,8732 "	136,1304 "	851,4263 "
1924	778,2883 "	164,9209 vag.	164,5905 "	295,7139 "	17,5230 "	149,4260 "	942,8788 "
1925	860,9474 "	319,3761 "	199,1116 "	278,1696 "	0,2160 "	138,6227 "	1060,0590 "
1926	923,6727 "	311,6471 "	161,8520 "	257,3160 "	1,6418 "	129,1684 "	1085,5247 "
1927	1076,0705 "	231,7967 "	212,9794 "	261,8707 "	28,8217 "	112,9467 "	1289,0499 "
1928	1126,6701 "	249,0569 "	215,5423 "	243,9434 "	23,3280 "	133,8272 "	1342,2124 "
1929	1121,3534 "	232,6979 "	222,6646 "	240,4360 "	9,7800 "	131,6588 "	1344,0180 "
1930	1144,6945 "	368,0038 "	189,9823 "	347,2780 "	—	124,2120 "	1334,6768 "
1931	982,4180 "	203,7423 "	92,7960 "	454,3911 "	—	118,3538 "	1075,2160 "
1932	752,5230 "	153,1681 "	—	449,2424 "	—	89,9153 "	752,5230 "
1933	812,4760 "	158,8878 "	—	497,4000 "	—	81,5961 "	812,4760 "
1934	912,2425 "	193,3805 "	—	489,7000 "	—	84,5794 "	912,2425 "
1935	899,7358 "	148,4186 "	—	582,5000 "	—	94,0888 "	899,7358 "
1936	858,6930 "	154,7296 "	—	566,5000 "	—	46,0301 "	858,6930 "
1937	902,9230 "	193,0812 "	—	549,8000 "	—	—	902,9230 "
1938	756,7670 "	154,7426 "	—	510,1500 "	—	—	756,7670 "
1939	1014,7410 "	239,1951 "	—	669,7000 "	—	—	1014,7410 "
1940	1238,4355 "	379,4180 "	—	791,4000 "	—	—	1238,4355 "

The production of paper, mechanical wood pulp and pulp from 1878 to 1940.

P r e p i s .

Štev. 580

O B R T N I L I S T .

Tvrška Združene papirnice d.d., Vevče, Goričane in Medvode so prijavile prost obrt izdelovanja papirja s stojiščem v Goričanah, občina Medvode.

Ker ni nobenega postavnega zadržka, seizda ta obrtni list s pristavkom, da se je radi pridobnine brez odloga zglasiti pri davčnem okrajnem oblastvu v Ljubljani.

Ta obrt je vknjižen pod št. 77/114 v obrtnem registru.

Vsako izpremembo o načinu obratovanja ali preložitve obrta je po § 32. in 39. obrtnega reda takoj sem javiti.

C. kr. okrajno glavarstvo
V Ljubljani, dne 28.februarja 1871.

Podpis-

Štev. I - 2351/29.

Za pravilen prepis
Sresko načelstvo v Ljubljani
dne 7.januarja 1930.

Kolek za Din20.-

L.S. V.z. Verbič l.r.

Kolek za Din 10.-

Ta prepis, kojega je stranka sama preskrbela, se popolnoma ujema z izvornikom pisanim na 1/2 poli in kolekovanim z 20.- Din -- p. Pisarna okrajnega sodišča v Ljubljani dne 11.1.1930.

Žig : Okrajno sodišče v Ljubljani

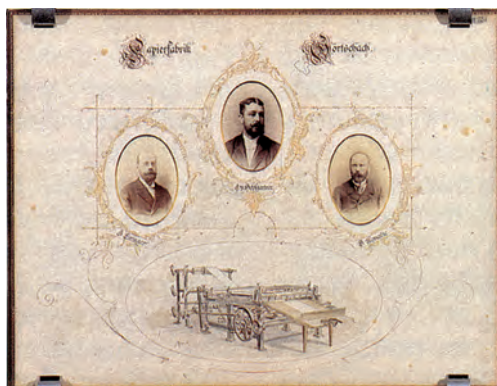
podpis :
nečitljiv

A copy of the permit for the industrial papermaking in Goričane plant.

The number of employees is also known for the year 1889. There were 61 men and 61 women employed in paper production and 20 men and 2 women worked on the wood grinder. Another 8 women and one man worked in garment maintenance and additional 3 men and 31 women worked in a paper hall. Therefore, altogether 142 workers were employed.

During World War I, already in 1914, the pulp mill Goričane stopped its production until 1921, along with the two wood grinders in Medvode and Verje. Afterwards, the wood grinders operated at a lower capacity.

However, there is a very detailed report from the Chamber of Commerce and Craft from Ljubljana about Goričane for the period between 1912 and 1914. The paper production data are extremely accurate and identical to those represented in the upper tables. Additionally, we also get the information about the value of the produced paper in 1905, 1911 and 1912. The report also tells us about the types of paper that were produced. We even know the quantities of paper that were exported to European countries and to Africa, North and South America and also to India, Turkey and Palestine. The results of the questionnaire show us that during these years they produced writing and press papers of all sorts and also raster paper for notebooks.



In 1895, the names of the clerks working in Goričane were also already known. Taken from Leykam's archive.

In order to produce the aforementioned annual quantities of paper, they needed about 300 tons of bleached and around 300 tons of non-bleached pulp along with 1,000 tons of mechanical wood pulp and about 750 cubic meters of wastepaper. We can see that they used approximately one third of the available pulp for the production of paper in Goričane and the rest was shipped to Vevče. All the mechanical wood pulp they had produced in Goričane was then used for the paper production in Goričane and the rest was brought from the wood grinder in Medvode.

Due to the beginning of the First World War, the paper machine stopped in the Goričane paper mill on August 3rd 1914. The factory ran out of the raw materials needed for production and workers went to war.

A u f s t e l l u n g .

Ueber die Fakturenwerte für das Jahr 1911 und 1912.

L ä n d e r .

Oestereich	Kr. 235.596.25	Kr. 220.142.90
Ungarn	70.856.48	53.362.39
Exporteure v. Oe. & U.	11.465.34	8.024.29
Belgien	17.809.15	50.745.90
Bulgarien	16.632.05	.....
Dänemark	.....	2.729.95
Deutschland	13.186.10	16.425.65
Export Griechenland	22.872.79	17.151.55
England	51.225.30	75.869.55
Italien	.....	653.15
Holland	9.799.45	23.114.75
Norwegen	.....	878.45
Schweiz	6.261.45	5.892.50
Spanien	.....	1.028.35
Portugal	33.35	431.70
Tunis	14.281.75	9.509.65
Türkei	77.351.98	46.238.80
Palästina	7.871.11	2.502.52
Ägypten	23.981.10	23.187.00
S. Amerika	4.944.85	7.456.10
N. Amerika	.....	4.417.75
Indien	53.511.80	52.950.90
Marokko	.....	32.05
	637.680.30	622.745.85
Kronen	*****	*****

Foundation of a new Slovenian stock company »Associated Paper Mills of Vevče, Goričane and Medvode (JSC)« after World War One

After the end of the WWI and the beginning of the Kingdom of Serbs, Croats and Slovenians (SHS), there had been a new state supervision of the Slovenian plants of the company »Leykam Josefsthäl A.G.« that was eventually forced into selling all Slovenian plants to the newly-founded company. The Ministry of Commerce and Industry in Belgrade issued a concession on February 18th for the foundation of a new company »Associated Paper Mills of Vevče, Goričane and Medvode (JSC)« with its headquarters in Ljubljana.

All the plants from the company Leykam Josefsthäl A.G. had been bought out by December 31st for a total amount of 20 million crowns (12 million were paid in cash in 8 million by the ventures of the new company). By this purchase the company ended up being in a majority ownership of the domestic capital.

The paper machine had not operated during the war and until December 1st 1921 when the machine production of paper started again. The management succeeded in employing a domestic expert Anton Lapajne who was the previous director of the pulp factory in Rebrca na Koroškem. On November 1st 1921, he

took up his new job and immediately conducted all the preparatory works so that the factory in just one month recommenced with its production. However, due to the lack of orders, they had to stop the paper machine already on March 22nd 1922. On March 21st 1922 the factory in Goričane was linked to an industrial rail that was then called »dovlačilnica«.

On March 28th 1922 in order for the paper machine in Goričane to continue with operation, the management decided to improve the paper machine in a way that it would be able to produce the »superior« or the one-side smooth paper.

The adaptation of the paper machine began in the end of 1922. From February 12th 1923 to March 7th 1923 they worked on the installation of the new cylinder that had been supplied by the company Gebrüder Hemmer from Ladenburg at Mannheim and its role was to improve the production of the smooth papers. On March 8th 1923, a one-side smooth paper was produced in the paper mill for the first time and since then the paper machine operated at a maximum capacity, thus reaching in 1929 a maximum productivity of 2,227 tons of paper which meant more than a 30% increased paper production in a comparison with the period before the adaptation of the paper machine.

In March 1924, the deceased director of plants in Goričane and Medvode was succeeded by Erik Liebherr who had previously been the director of a pulp factory in Rebrce. A direct technical supervision of production in Goričane and Medvode plants was entrusted to the manager of the plants who had been previously employed in a pulp factory in Hinterberg in Austria.

In 1931, a global economic crisis emerged and during this year the production of the paper machine in Goričane was merely 928 tons of paper. In September the paper machine in Goričane came to a permanent shutdown due to the immense impact of the foreign goods on our market. »The Associated Paper Mills of Vevče, Goričane and Medvode« (JSC) decided to assign their paper production to Vevče, while assigning the pulp production to Goričane. The Goričane paper machine was one of the 4 machines in the »Associated Paper Mills« and was called the »G« machine (Goričane). The quantities of the Goričane paper were shipped to the »B« machine in Vevče. The paper machines in Vevče only operated for three days a week.

Technical data of the »G« paper machine in Goričane after several adaptations

It was constructed by Maschinenfabrik Leobersdorf, a factory from Lower Austria in 1872. The daily production was estimated at about 8,000 kg of paper, the speed of the machine was about 75 m/min and the operating width was 142 cm. Two stationary mixing box were also constructed next to the paper machine.

The paper machine consisted of:

- the wire section that was 12.90 meters long and 15.90 meters wide;
- a rolling press and
- a lying and standing wet press.

The drying section with cylinders that were 1600 mm wide consisted of:

- three lower dryers of felting;
- the first line of paper dryers, consisting of four cylinders with a width of 920 mm;
- the second line of paper dryers, consisting of three cylinders with a diameter of 1,222 mm wide, one with a 920 mm diameter and another with a 2,500 mm diameter;
- two upper dryers of felting and
- a rolling and cutting device.

The basic rails were set up in a 2,000 mm spacing intervals. The machine was equipped with the wire shaker and all the auxiliary machines and devices.

Operating of the machine was made possible by the transmission triggered by a water turbine. The entire machine weighed about 90 tons.

The paper machine was installed in a paper machine hall, located on the ground floor of the paper factory. Next to the paper machine there was the satining department. The paper hall was located on the first floor, above the paper machine. The facility utilized for the paper machine was 35 meters long and 10 meters wide.

The paper machine underwent adaptation processes multiple times. In 1891, it was equipped with the web glazing that was set up between the 7th and 8th drying cylinder. The press was supplied by a company Nebrich from Golzern in Germany. The cylinder was 1.55 meter long and of a 300 mm diameter. The original plan from August 6th 1891 has been preserved.

In 1893 they enlarged the drying section. They installed additional

drying cylinders and the plan of this adaptation has also been preserved.

The last time the paper machine was upgraded was in 1923. The reason lay in the intention to produce smooth papers. The first paper, produced by the upgraded paper machine, was made on March 8th 1923.

Because of the global economic crisis, the paper machine in Goričane was permanently shut down in September 1931. However, the paper machine was not sold off and consequently it remained intact until the Second World War. It survived the Second World War but after the war had finished, they used its parts (the drying section) for the construction of a paper machine that was built in Vevče in order to aid the paper factory from Belgrade. That was simply the decree of the General Directorate for the Paper Industry in Ljubljana.

The wood grinder in the Goričane paper mill was shut down in 1929 and the other one from Medvode was shut down in 1936 since all the needs were met by a bigger wood grinder in Vevče that had been built in 1929.⁽⁴⁾

Well-timed specialization in pulp production by Goričane

Since 1890 when the pulp production had begun in Goričane, there was only one pulp digester with the size of about 30 cubic meters. At the time, there were already three pulp digesters in Podgora ob Soči, each of them with the size of 120 cubic metres. Nevertheless, Goričane paper mill was proud of its paper, pulp and mechanical wood pulp production. The photos of that small pulp factory were even found on postcards.

The postcard was made in 1927 when the total monthly paper production in Vevče and Goričane amounted to 1,000,000 kg (of any paper type).

Next, it was time for a modernization of the pulp production in Goričane along with huge investments. Before the Second World War three new pulp digesters had been constructed with a volume of about 65 cubic metres.

The first pulp digester (this one is preserved as a landmark) was constructed



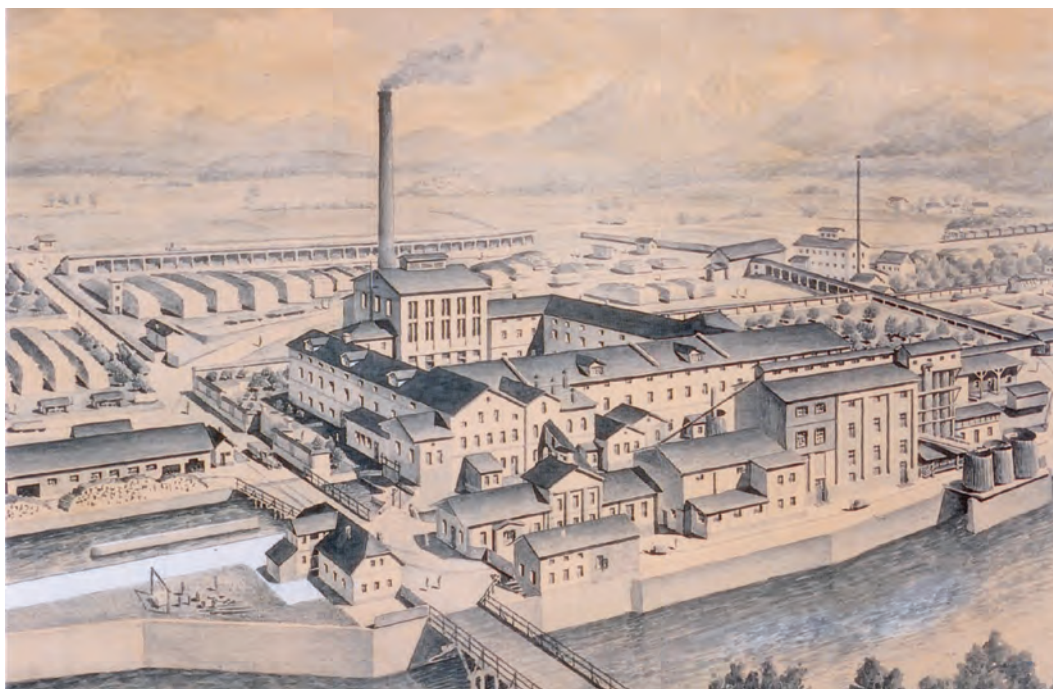
A photo of pulp production as seen on the «island» between the Sora river and the turbine duct.

in 1929, in 1934 the second one was built and in 1938 they installed the third one. The Second World War ruined the plans for the construction of the fourth one even though everything had already been set for its installation.

A new facility intended for these three pulp digesters can be seen on the drawing by J. Karlovšek from 1933.

During the war, Goričane was governed by Germans and Vevče was controlled by Italians.

They prepared an assessment of the pulp factory. The inventory also includes the paper machine made by the machine factory Leobersdorfer Maschinenfabrik from Leobersdorf in Lower Austria but this paper machine was not in operation. Along with its auxiliary devices, its value was estimated at 15,000 Reichsmarks (RM) and the entire pulp factory was assessed as being worth 403,100 RM. The Lignosulfonates factory was sold to a private company from Germany. Of course, they first had to take it away from its owners who were originally from Sisak.



The pulp and Lignosulfonates factory Goričane in 1933 (J. Karlovšek)

Pulp and Lignosulfonates factories both become state-owned entities

After the end of the World War Two, the factory became a property of the state. As an independent company, the pulp factory in Goričane operated until 1947. Afterwards according to the order by the Federal Government in Belgrade, the Goričane pulp factory and the Vevče paper mill merged to form »Vevče-Goričane Paper Mill and Pulp Factory« with its headquarters in Vevče. In 1950 the company came under jurisdiction of the government of the People's Republic of Slovenia along with its new subsidiary company »Tanin« Medvode which had been built in 1925⁽⁵⁾ in order to recycle the waste of the pulp factory. The merged company soon split into two companies. »Pulp and Lignosulfonates factory Goričane« was established in Goričane that was later in 1955 renamed into a company »Pulp« Medvode.

»PULP« MEDVODE EN ROUTE TO A RENEWED PRODUCTION OF PAPER (1959–1976)

It all began with the modernization of the factory. In 1956 they constructed a modern, stationary pulp digester. In 1959 the factory prepared an investment program of reconstruction and the plan for the increase of pulp production. They also planned the installment of the paper machine that had been approved by the republic authorities. The approved funds, however, were only sufficient for the performance of the first phase of the introductory stage which meant that they could activate the preparation of acid, along with the processes of sorting and bleaching. In 1962 the factory, wishing to carry out the intended investments, joined once again with the Vevče paper mill. Eventually they decided to build a pulp factory in Goričane whose annual capacity would be 75,000 tons but because they were unable to provide the funding, the pulp factory itself initiated a process of searching for other partners, willing to invest in the pulp factory with the annual capacity of 100,000 tons. In 1970 the pulp factory Medvode separates from the Associated Paper Mills of Ljubljana.⁽⁶⁾

The Medvode pulp factory is again an independent company

For the purposes of the medium term program of the development of Slovenian paper industry (1970–1975), Pulp and paper factory Krško submitted a competitive program for the construction of a new factory of magnefite pulp. The program had also been supported by the paper industry

of Slovenia. The Medvode pulp factory first had to improve all the critical points in the production of pulp and simultaneously it started to search for a partner that would help it install a paper machine. The AERO company, representing chemical and graphical industry of Celje, showed interest in constructing the paper machine because they needed paper for their own plants.



MERGER WITH THE COMPANY »AERO« CELJE

The talks regarding the joint venture were chaired by Slavko Zule, the managing director of the Medvode Pulp, and his counterpart Miran Mejak, representing Aero Celje who took office at Aero in January 1972. On New Year's Day in 1975, his post was taken by Milan Zupančič.

On April 17th 1973 both workers' councils validated the merging of the companies and on July 1st 1973 the statutory agreement came into effect which initiated the joint venture between the two companies.

The construction of the paper machine along with installing proper power supply was achieved in record time. The grand opening and the paper machine launch took place on **April 23rd 1976**. The paper machine was made by a company Andritz from Graz, Austria under licence of the German company Escher Wyss. The machine was constructed in a way that it could reach the operating speed of 350 meters per minute and had the wire width of 4,100 mm. Operating with a paper line which was 375 cm wide, the annual capacity of the machine was 20,000 tons of paper. The new power supply was installed for the purposes of producing 40 tons of steam per hour and it was equipped with a steam turbine that propelled a 6,4 MW generator. The steam boiler was made by a company Waagner Biro from Graz, Austria. The steam turbine and the electric generator were made by Siemens company from Germany.

The »Paper«, a newspaper representing Slovenian paper industry, acknowledged the report of the grand opening of the new plants in Goričane by choosing an exciting title:

*AGAIN AFTER
45 YEARS –
PAPER
PRODUCTION
IN MEDVODE*

In Novi tednik, a newspaper from Celje, there was the following short article published on April 12th 1973:

AERO WILL BECOME BIGGER,

After the unsuccessful talks about the possible consolidation with the Radeče paper mill, the representatives of Aero from Celje began to discuss the possible ways of cooperation with the Medvode pulp factory. Both companies soon found a common ground and a few days ago the workers' council of the Medvode pulp factory passed an agreement about the call for referendum on the merger with Aero.

The consolidation is about merging the basic and processing industries. In order to smoothly operate production activities, Aero with its high level of development needs to have larger quantities of paper on annual basis and each year the supply of the basic papers becomes more difficult. Precisely because of these needs the program of a joint venture includes investment in a paper machine with which they will start regular paper production in Medvode by autumn 1975. In Medvode, they will also conduct the first phase of the sootless copying paper refinement that will soon be produced by Aero in cooperation with Japanese partners. Apart from paper, they will also improve the recycling of waste water that results from the pulp production and so far this asset has not been properly taken advantage of. For this, they will only use minimal investments in Medvode. Among the most important products of this factory will still remain the pulp which is known to be of the best quality on the domestic market. The interests of the two companies overlap almost ideally and therefore nobody doubts in the successful outcome of the referendum on the joint venture. The Medvode pulp factory will consequently become an equal partner (TOZD) of Aero and will continue to conduct business as an independent entity.

The report from the grand opening of the new facilities includes an interesting address by eng. Janez Barborič, the representative of the trade union:

Many of you who have gathered today in order to solemnly welcome a new heating plant and a paper mill surely remember the times when there was an old factory on this bank of the Sora river and where its activities resembled a decay rather than a lively rythm of economic development. We don't have to search for the memories of a distant past. But perhaps only 10 years ago.

Futurelessness and despondency prevailed back then during your working days. Many people were leaving but even more decided to stay determined that sooner or later this despondency would be overcome and they remained confident that brighter days were ahead. You were joined by others and together with the new colleagues you began to forge your own path. The onset of this long-expected time has finally come true for all of you.

The Medvode pulp factory is now indisputably one of the important industrial plants not only in Slovenia but also in the entire country. Your future is not uncertain anymore and you have secured work and stability for yourselves – actually not only just for you but also for the many new colleagues of yours.

However, I know that by completing a new heating plant and other facilities that were included in your investment program you still have not totally satisfied your desires for creativity.

In the subsequent history of the Goričane paper mill, it turned out that there was indeed the need for much more creative inspiration in order to endure moments such as the shutdown of the pulp and Lignosulfonates production. Also, they needed this creativity to perform many improvements on the paper machine so that it can boast today as being entirely competitive with the best of the world.

We will analyze these improvements in more details later, but first let us pay more attention to big achievements of the grand investment in the years of 1975 and 1976.

In a brochure, published for the grand opening of the paper factory and its installation of power supply, we can read the following:

By installing a new plant for paper production in Medvode, we have fulfilled the wishes of everybody taking part in a joint venture. We have been aware for a long time that we need to ensure our own raw materials for the production. The most important of these materials is paper. Having our own production has become an imperative, i.e. it has become a necessity for the survival and the continuation of the joint venture. The basis for the connection was justified by the fact that the »Pulp« company represents a partner that possesses raw materials for the production of paper, i.e. the pulp. It was acknowledged that it had access to wood from the heart of the Gorenjska forests.

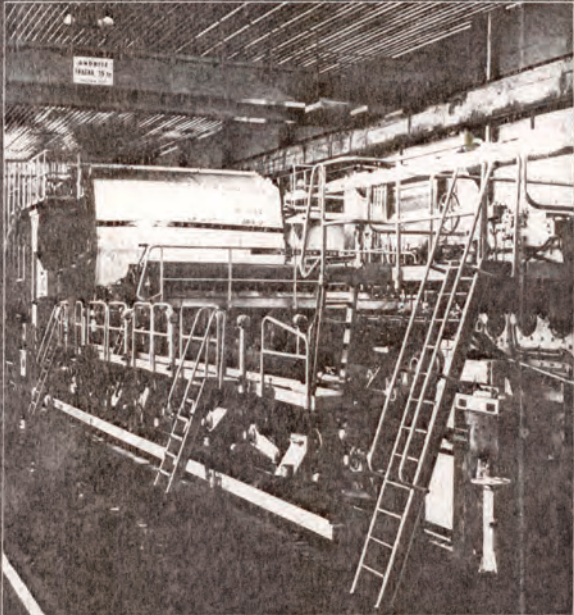
CONSTRUCTION OF PAPER MACHINE ANDRITZ, MADE UNDER LICENCE OF »ESCHER-WYSS«

40

GORIČANE PAPER MILL

ANDRITZ
Ein Begriff in der Papier- und Zellstoffindustrie

Für die Papierfabrik Medvode (Jugoslawien) lieferten wir eine komplette Papiermaschinenanlage zur Herstellung graphischer Papiere im Flächengewichtsbereich von 40-110g/m² und einer Tagesproduktion von 60-85 Tonnen
Siebbreite: 4100mm, Arbeitsgeschwindigkeit 70-350m/min.



Unser Erzeugungsprogramm umfaßt:
Holzentründungsanlagen
Stoffaufbereitungsanlagen
Papier- und Kartonmaschinen Bauart Andritz-Escher-Wyss
Lufttechnische Einrichtungen
Doppelsiebpressen zur Entwässerung von Faserstoffen
Zellstoffentwässerungsmaschinen
Schlamm-entwässerungsmaschinen
Stoffpumpen

Maschinenfabrik ANDRITZ Actiengesellschaft
A-8045 Graz-Andritz, Austria

*An advertisement of the machine producer in a papermaking magazine
»Wochenblatt für Papierfabrikation«.*

Right after the merging in May 1973, the crucial works began. Until late autumn in 1973, offers for the equipment had been considered on the basis of an international tender. Five bidders made their way into the short list. These were exclusively globally recognized names. The selection was conducted in December 1973 with the help of experts from the Industrial bureau and Electroproject of Ljubljana.

A consortium of firms ANDRITZ – WAAGNER BIRO – SIEMENS was chosen as a supplier. This meant that there were two firms from Austria and one from West Germany. The technological

equipment for paper production was supplied by ANDRITZ from Graz. The equipment included tools for the preparation of the paper material (dissolvers, grinders, vat, cleaners, etc.), a device for maintaining additives and a paper machine with a state of the art construction boasting with the operating speed of 250 m/min along with a construction speed of 400 m/min on the paper line with a width of 3,75 m.

The paper machine can produce around 20,000 tons of the best quality wood free papers, such as: AC paper, heliographic paper, paper intended for countless types of forms, etc.

Photo of a new paper machine in a papermaking magazine »Papir«.



The paper machine was upgraded with devices used for the finishing of raw reels: a rewinding machine, a cross-cutting machine, a packing machine, scales, etc.

Taking into account that paper production demands advanced steam technology and is a big consumer of electric energy, the company WAAGNER BIRO in Graz ordered a steam boiler with the capacity of 40 tons per hour and also an auxiliary steam boiler with 15 tons per hour capacity. Additionally, the suitable chemical preparation of the water in the boiler was also guaranteed.

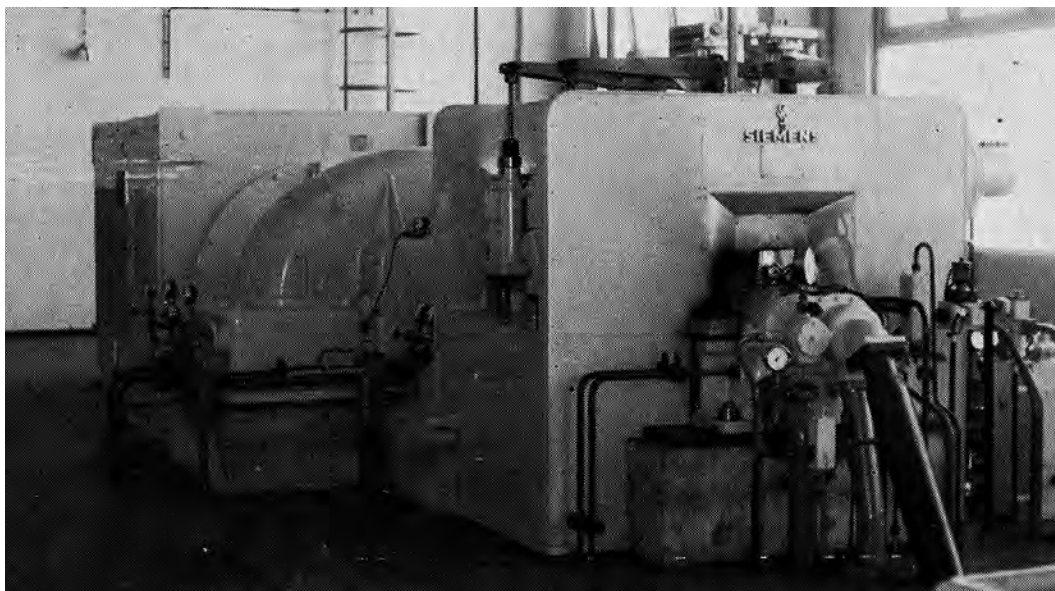
The steam turbine (60 bar, 500°C) with a 6,4 MW generator was purchased in order to ensure quality and economical supply

of electric energy. The supplier of this equipment was SIEMENS Erlangen from Germany that also supplied the rest of the electrical equipment.

The preliminary contract with the consortium ANDRITZ – WAAGNER BIRO – SIEMENS was signed in December 1973. Kovinotehna from Celje was selected as the importer. After this, all the financial and business transactions took place.

It is crucial that the fixed price of the paper machine was already guaranteed by the time of the preliminary contract. This was very important because we started with the investment during the time of strong inflation movements.

Photo of a new steam turbine and the electric generator in a papermaking magazine »Papir«.



The fact that a consortium of three firms had been chosen for the equipment supply turned out to be a great move which manifested itself in cost reduction pertaining to the investment. All the questions that occurred during the construction and installation could be dealt with and solved at the same location. Additionally, there was yet another advantage: the locational proximity to the main supplier.

In the beginning of 1974, most of the efforts were focused on the acquisition of all the permits required for the construction. Numerous consensuses were being collected as well. Simultaneously, the Electroproject and Industrial bureau were also overseeing the writing of constructional projects and the procedure for acquiring the construction permit. In this way, it was possible to select the building contractors in 1974.

Finally, it was time for the long expected moment. In the beginning of July 1974, the bulldozers started digging for the first time. Large-scale works began. The construction works went smoothly. Some of this efficiency was also due to a very mild winter in 1974/1975.

Based on the preliminary contract, which was signed on February 27th 1973, the financial documentation was prepared and a 111,693,000 Yugoslav dinar loan was taken out at Jugobanka with 11% interest rate and a repayment

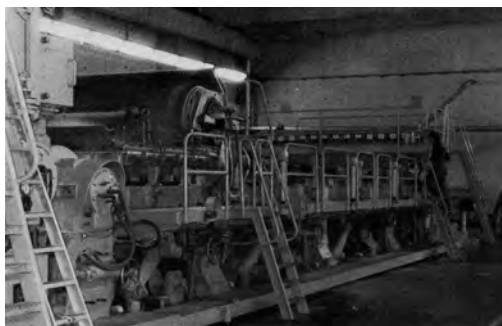
term of 7 years. There were also suitable guarantees for the foreign currency loan and for the dinar guarantees amounting to 52,900,000 dinars. Additionally, there was a dinar guarantee of 25 million dinars for the nonrefundable funds and also 27,223,000 dinars of nominal capital. Apart from this, it was also necessary to pay one million dinars to Jugobanka for the founding share and a contract had to be signed for the delivery of 45 million dinars for a 10 year period.

During the construction phase, it became evident that these funds will not suffice for the completion of the investment. That is why they had to take out another loan at Jugobanka which then covered the costs of the increased investment value. Also, additional contracts pertaining to the foreign currency loans had to be signed.

The price rises occurred due to the known reasons. The investment was happening during the greatest inflation influences. The currency trends also changed and consequently more funds were needed in order to pay for the supplied equipment. The costs of customs also fundamentally increased since the original beneficial (5%) customs rate was suspended. Namely, the paper industry was exempt from the priority industrial sectors and therefore there were no customs discounts. The possibility of paying the customs bill by 6 month postponement date was also cancelled. The customs costs had to be paid immediately and in the entire sum.

Altogether, the amount of the ascertainable price rises was approximately 130 million dinars. As a consequence, the original investment value increased from 330 million dinars to about 450 million dinars.

A big factor in the price rise was the decision to incorporate a device into a paper machine which was to eventually lower the cost of the upcoming investment in Celje. The paper that is to develop in Medvode undergoes additional improvement in Celje. These are the so-called carbonless copying papers. After the contract regarding the paper machine had already been signed, there was another special license agreement signed pertaining to the improvement of this paper. It was concluded that the least expensive production of this paper is possible when the paper machine already has a special coating device for the first coating. In this way, there is no need for double coating in Celje. The machine in



Wire section of the new paper machine in papermaking magazine »Papir«.

Celje was supposedly appropriate only for the second coating. This device for coating on the paper machine in Medvode cost 15 million dinars.

Enormous efforts were invested into solving all problems, especially the financial ones. Work was not easy. It was happening in an era when the conditions for investments were rigid and tighter. Nonetheless, the work was finished on time.

The production capacities of the new paper machine were very promising. They were supposed to produce papers ranging from 40 grams per square meter to 110 grams papers and of course, mostly those paper types that would prove to be profitable. Also, they could work with quantities that met the needs of the factory. It was important to note that the production of AC papers was to permanently have the same quality. This meant that the paper was to be always made of the same pulp quality and consequently there were no differences in technological features.

The paper machine was expected to contribute greatly to the economic revival of the company.

Technical data of the new paper machine ANDRITZ and the newly installed power supply devices

Producer of the paper machine: ANDRITZ from Graz, Austria

Technical data of the machine:

- Operating speed: up to 350 m/min
- Wire width: 4,100 mm
- Paper width: 375 cm
- Annual machine capacity: 20,000 tons of paper

There had to be a sufficient amount of steam from the power supply for the pulp production and for the needs of the paper mill. That was the reason they had to completely rebuild the system. The steam boiler was made by the company WAAGNER BIRO from Graz, Austria (60 bar, 500°C) and the German company Siemens made the steam turbine and a 6,4 MW generator.

In »Wochenblatt für Papierfabrikation«, a magazine about paper industry, the producer of the paper machine used the October 1978 edition to inform papermakers throughout Europe that there is a newly-built modern paper machine in Medvode. In the same edition, there was also an article by B.A. eng. Mlakar from the Paper factory Medvode who, while attending the annual conference of Austrian papermakers »APV« in Gradec, presented a new factory of fine(-weight) paper in Medvode and also shared his experiences about the first year of operation with the new paper machine.

Because the startup of the new coating machine in Celje was only expected to happen in February 1978, some of the »self-copying« paper with the CB coating was sent for improvement to England.

What mattered, though, is that already in the first year they reached the 110% capacity with the »self-copying« papers with coating done on the paper machine in Goričane. The same applied to the other »self-copying« papers with starch coating on one and CF coating on the other side of the paper line. All the other papers that were produced in 1977, reached 120% of the capacity that was predicted during the planning phase.

The next big investment was the reconstruction of the cooking section

The investment was essential for maintaining safe production. The fourth pulp digester was relocated and enlarged. Additionally they bought two pulp digesters from a factory in Zagreb that had been shut down. The investment was successfully finished in 1984.

Gradually, all the other departments in pulp production were modernized. In order to remain competitive in the paper production industry, they had to reconstruct the paper machine which they did in 1987. The entire parts of the paper machine were replaced and furthermore they installed a new diffuse headbox and a new system of wet presses. Additionally, they enlarged the drying section and installed a gas heater along with a new soft calender and at the same time they renewed the steam condenser. Last but not least, they also installed a process control computer on the paper machine.

The reconstruction was successful as the operating speed of the paper machine increased to 600 m/min and the annual machine capacity was improved by 50%. They also modernized the preparation of the substance, chemicals and the coating substance. They installed a disc filter in the circular system of waste water which proved to be very efficient as a lot of fibres, which had previously polluted the environment, were recycled.⁽⁷⁾

On the basis of the set goals, the decision was made about the selection of the supplier and the scope of the reconstruction. Let's check the plan and see which parts of the paper machine were reconstructed.

Beginning with the first part of the machine, from the headbox to the drying section:

They replaced the headbox with a modern diffuse headbox, some parts of the wire section, added a new dandy roll and brand-new presses with cylinders equipped with a modern NIPCO technology (the cylinder can bend and fix the width of the conveyer belt). Additionally, they replaced parts of the drying section.

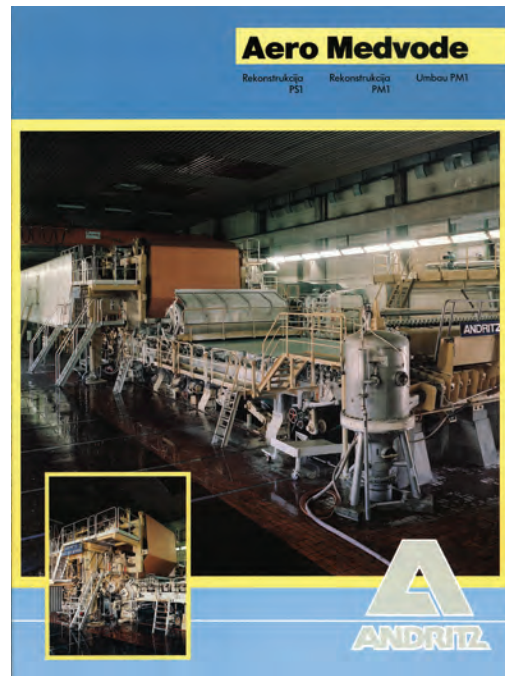
Here is the summary of what was reconstructed in the next sections of the paper machine:

The coating aggregate Bill-blade was upgraded, and a new dryer of the paper line was installed behind the coating aggregate.

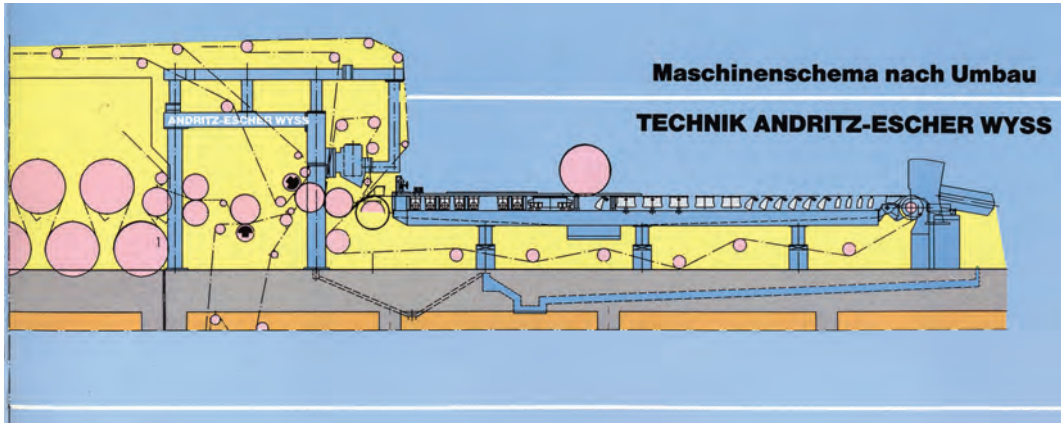
The old soft calender was replaced by the modern back-to-back soft calender

from the company Hunt&Moscrop from England. Behind the soft calender, they installed the new measuring frame with modern paper quality measurements. The winder was put higher due to the work safety requirements.

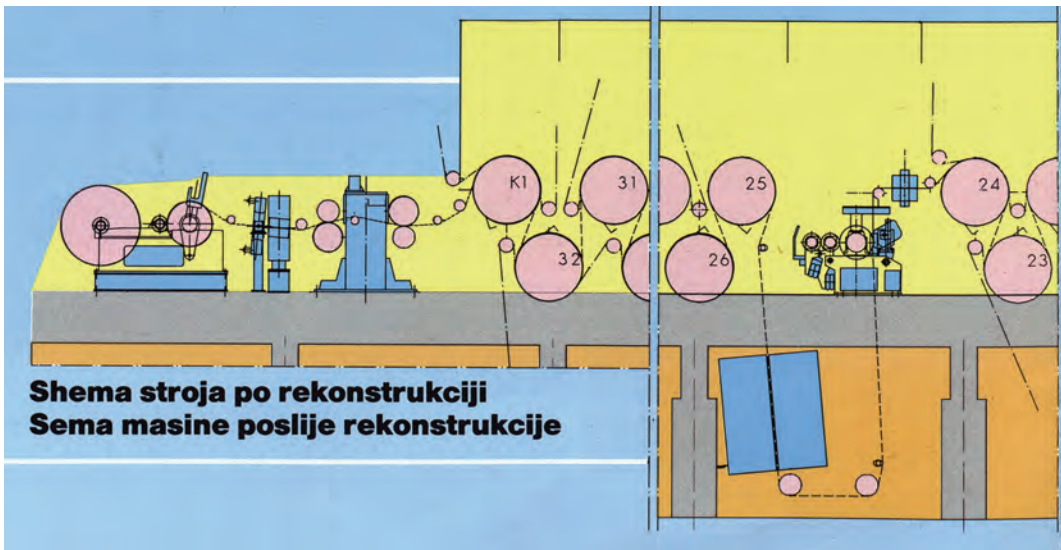
ANDRITZ from Graz, the producer of machines and devices for the pulp and paper industry that supplied the equipment for the reconstruction, designed a leaflet after a successful completion. He used the leaflet to inform the buyers about the successful renewal of the paper production in Goričane.



The advertisement from the producer of the machine about the finished reconstruction of the paper machine in Goričane.



The first section of the machine: headbox, bottom wire and presses. Paper runs from right to left.



The finishing section of the paper machine: the coating aggregate, the subsequent drying section, soft calender, measuring frame for controlling the quality of the paper and winder. Paper runs from right to left.

The goal of reconstruction from 1986:

GOALS OF THE RECONSTRUCTION

The capacity of the paper machine P1, which had been supplied by Andritz approximately 10 years ago, was to increase due to the reconstruction in 1986/1987 for about 50%. At the same time, they were supposed to improve the quality and introduce new products.

Data about the machine:

Production program:

- *basic NCR paper*
- *endless paper used for forms*
- *coated CF paper*
- *copying paper*

Grammage: 40 – 90 g/m²

Wire width: 4,100 mm

Post-reconstruction speed: 600 m/min

SUPPLY RANGE

Andritz supplied the following components for the planned reconstruction:

- *parts used in substance preparation and paper scrap transformation*
- *work constants*
- *chemical preparation*
- *headbox with a graded diffuser*
- *wire section parts*
- *press section with NIPCO technology*
- *parts of the drying section*
- *soft calender*
- *disc filter*
- *vacuum pumps*
- *preparation of the coating substance*

During the supply and installation, Andritz frequently cooperated with Yugoslav companies.

The adaptation was successful and now we can check the comments made by the representatives of the paper mill and also the ones representing Andritz, the supplier of the equipment.

MEDVODE...

»We have accomplished our goals. The reconstruction has allowed us to increase our production and improve the paper quality. Because of the more efficient paper machine, we are now able to produce paper more economically. We are sure that we have set the right course for the future.«

...AND ANDRITZ...

»One of the fastest paper machines with bottom wire in the country has been supplied and reconstructed in record time. Among other reasons, this has been made possible due to the professional cooperation of all partners, involving the paper factory itself and also the supplier of the technical equipment. The investment in modernization of the machine should also be recognized and valued outside the regional borders. The Andritz workers are proud to have been a part of this success.«

PULP AND PAPER FACTORY MEDVODE TERMINATES THE JOINT VENTURE WITH THE AERO COMPANY

In the joint venture AERO, the Pulp and paper factory Medvode was organization-wise a totally independent company. A new legislation about companies, however, made it possible to restructure companies. In this way, SOZD AERO restructured itself into 4 independent companies. Pulp and paper factory Medvode was then registered as a social company on December 4th 1989 on the official list of the Ljubljana District Court.

ESTABLISHMENT OF A JOINT STOCK COMPANY GORIČANE, PULP AND PAPER FACTORY MEDVODE, (JSC)

In May 1990, the Pulp and paper factory Medvode signed a contract with the company Frantschach AG pertaining to the investment of capital in the company in order for the company Goričane to be able to restructure itself into a stock company. They also invited the company Andritz from Graz, Austria and two from the previous joint venture – CETIS Celje and AERO, Chemical, graphical and paper industry Celje; all in order to join the newly established stock company. The stock company »Goričane, Pulp and paper factory« was founded on August 14th 1991 and was enrolled in the court register on October 25th 1991. In 1990 and 1991, the factory nearly ended up with negative economic results, even though it produced a record setting 43,447 tons of paper in 1991. In 1992, the situation became especially critical since the state decided to end the pulp production.

THE SHUTDOWN OF THE PULP AND LIGNOSULFONATES PRODUCTION IN FEBRUARY 1992

The factory faced numerous problems while conducting business in 1990 and 1991. The Yugoslav market collapsed, the factory was affected by illiquidity and on top of this there was also a strong initiative by the Green Party that wanted to stop the pulp production.

In the factory, a partial ecological restoration was carried out in 1984 by building a new pulp cooking section and in 1992 they began with ecologic whitening of the cellulose using the hydrogen peroxide. That is why they also connected the waste water outlet to the sewage connector of Medvode-Brod-Zalog. The factory possessed water management permit for all the investments. It turned out that the state prescribed a wrong strategy of resolving the issue of waste water problems that occurred due to the pulp production. Nevertheless, the state did not allow a deferment of payment for the purposes of ecological restoration.

All of a sudden, the state decided to close the panel and prohibit the release of waste water into the Sora river. The waste water

had been flowing into the river after partial chemical treatment for 102 years, making it incomprehensible that a 4-year deferment of payment was not declared for the purposes of the restoration. On February 17th 1992 the company Vodovod-Kanalizacija closed the conduit of waste water from the pulp production to the Medvode-Brod-Zalog panel which was according to the state orders co-financed also by the factory.

The shutdown of the pulp production meant a financial collapse of the factory. In 1992, the pulp prices rised significantly on the global market and this increase was not immediately followed up by the increase of paper prices. The factory also had to pay out salaries to the 250 unemployed workers and cover the expenses of the pulp production shutdown and also had to fund the increased costs of energy. Because of the damage, the factory demanded compensation from the state. However, the goverment forced the factory to rely on the aid from the Development Fund of the Republic of Slovenia. Companies that ceased to operate due to the wrong business decisions or the collapse of the Yugoslav market, were assisted by the aforementioned fund.

The factory was therefore only producing paper and the power supply facility was also still operating. There were only 170 employees left. At the same time when the pulp production shut down, there was also the shutdown of the Lignosulfonates production since the raw material for the production of Lignosulfonates was the waste that was produced due to the pulp production.⁽⁸⁾



Picture of the chimney from the Sora bridge

THE DEVELOPMENT FUND OF THE REPUBLIC OF SLOVENIA BECOMES THE OWNER OF THE COMPANY'S CAPITAL IN A PROPORTION OF 75% OF THE ENTIRE INVESTMENT IN THE STOCK COMPANY

The workers' council passed an agreement that the company would join the tender of the Republic of Slovenia for the assistance in restoration and restructuring processes of companies. On October 19th 1992 they signed a contract with the Development Fund of the Republic of Slovenia to transfer 75% of the company's capital to the fund.⁽⁹⁾

In December 1992, a parallel company GO-PA p.o. Goričane was founded which made it possible to initiate the process of the factory restoration.⁽¹⁰⁾

The factory changed its name into »Goričane, tovarna papirja Medvode, d.d.«

In a few years, the factory improved its business and in June 1995 its account was no longer blocked.⁽¹¹⁾

The fund bailed the company out by 7,5 million German marks and this capital increase became valid from January 1st 1995 onwards. The fund's share in the company therefore augmented to 80,3%.⁽¹²⁾

They also started to invest in new technology: they purchased a new pick-up cylinder which enabled a slight increase in the speed of the paper machine (610 meters per minute) and a new cross-cutting machine that cost 2 million German marks.

In the end of 1996, they installed a new winder, which resulted in a lesser paper scrap, improved the rolling of paper and shortened the delays due to the potential machine breakdowns. They were able to coil reels twice as heavy as before which meant additional decrease in paper scrap. They purchased the new polyurethane covering on NIPCO cylinders which increased the speed of the production of certain paper types.

In 1997 the factory acquired the ISO 9001 certificate.⁽¹³⁾

Austrian companies Frantschach AG and Andritz AG sold their shares of Goričane paper mill to the Development Corporation of Slovenia in 1998.

In 1999 they invested in the improved technology for the paper coating. They

purchased a new coating aggregate and a new coating cooker and also conducted some minor adaptations on the paper machine. The investment costs amounted to 13,5 million German marks.

In 2001 they invested in the improved paper quality and the increased speed of the paper machine that reached 800 meters per minute in the wire section which means a maximum speed of 840 meters per minute on the winder. The total cost of the investment was 11 million German marks.

In 2002 they built a new hall where they installed a new rewinder which enabled them to achieve the increase in paper production. A new packaging line for the reel wrapping was also purchased. The investment costs were 7,5 million euros.

THE DEVELOPMENT CORPORATION OF SLOVENIA IN LIQUIDATION SELLS ITS SHARE IN GORIČANE

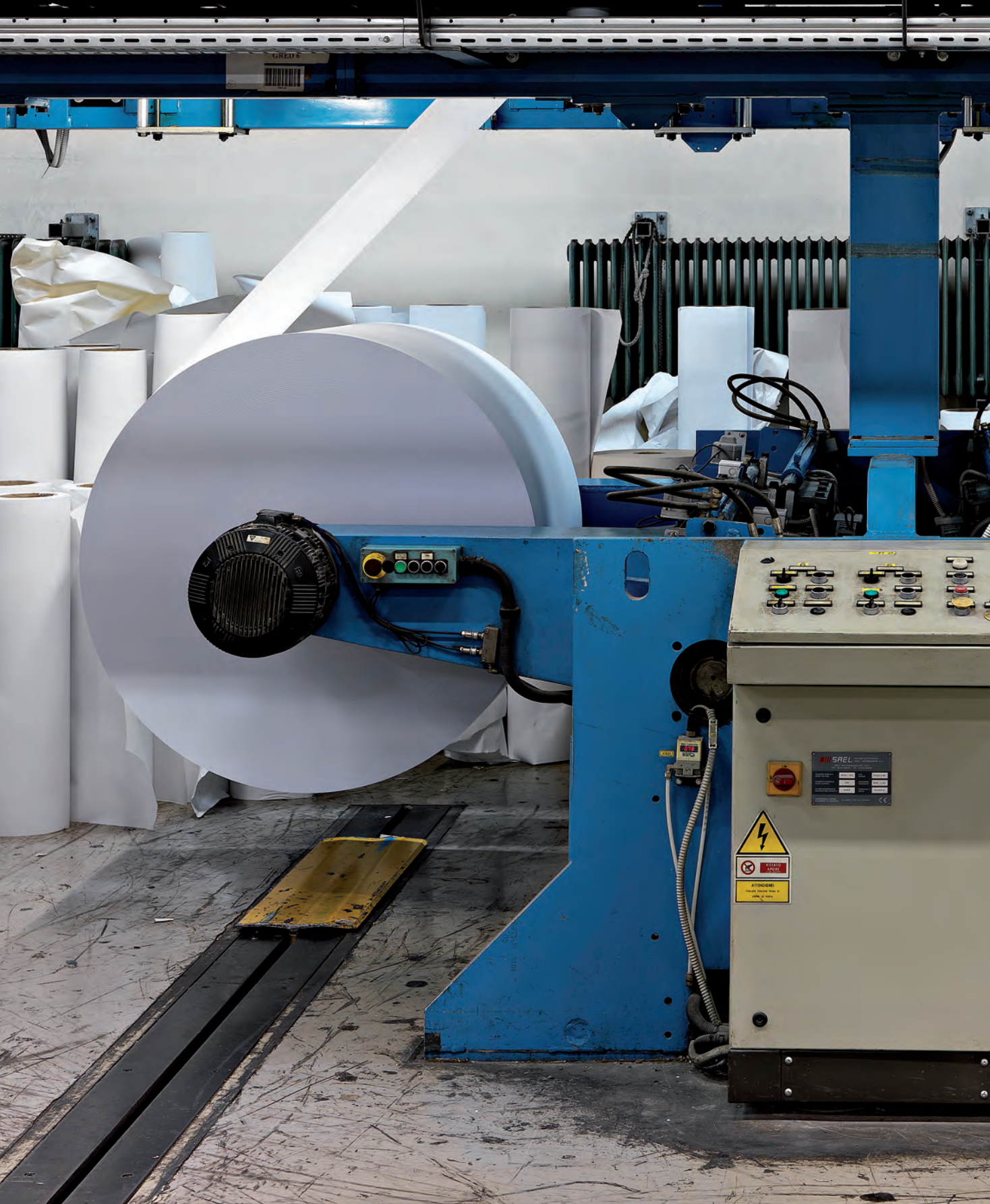
On the third tender, the Development Corporation of Slovenia sold its major share (85,34%) in the company to the only bidder, i.e. to the company **Papigor, holding, d.d.** The purchase agreement was signed on November 7th 2002.⁽¹⁴⁾

The factory kept increasing its production between 2002 and 2006, lowered the specific consumption of energy and conducted business on a top-notch level.

More details about Goričane after the takeover of the new owner in 2002 can be found in the appendix.

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GRD 6

SAEL
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POT. max. 1000 W
Tensione: 230 V
Frequenza: 50 Hz
CE

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PERICOLO ELETTRICO
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The background of the slide is a photograph of a paper mill. It shows several large rolls of white paper standing upright. In the foreground, there is a blue metal structure, possibly part of a machine, with various pipes and electrical components. The floor is made of concrete and has some dark marks. The overall scene is industrial and brightly lit.

RELIABLE SPECIALITY PAPER PRODUCER

*Summary of main
investments and events
from 2006 until today.*



- On June 17, 2006, after a shutdown that lasted 17 days, the extremely demanding period of installing new investment equipment was finally over. The goal of the investment was to improve the quantity and quality of paper. Paper production was upgraded in every aspect: with the most advanced technological, technical, IT and process technology. It included every segment of paper production: stock preparation, the constant section, the headbox, wire section, calender, a new computer system for process monitoring and management, a system for controlling quality and the paper web itself, and electro engine drives. The total cost of investment exceeded EUR 15 million.
- The investment was concluded with a celebratory event held in November 2006.
- The traditional annual conference of the Pulp and Paper Engineers and Technicians Association of Slovenia (DITP) was held in November 2006 in Bled. One of the lectures included a presentation of the paper production upgrade at Paper mill Goričane. The purpose of the presentation was to point out the different reasons behind the investment, the extent of the investment, the tasks and problems that occurred during the integration of different systems as well as their technical solutions.

The purpose of the investment:

- new specialty products.
- Improving the quality of existing products.
- Increasing production.
- Improving energy efficiency.
- Efficient paper machine operation and maintenance.
- Efficient collection and storing of parameter data on machines.

The investment-related activities included:

- Upgrade of the long fiber line, including complete cleaning and refining (installation of new refiners JC01 – 250 kW).
- Upgrade of the broke line, including cleaning and pulping (JD01 – 132 kW).
- Installation of a pressure mixing unit to reduce impurities.
- A continuous digester of cationic starch.
- Renovation and upgrade of waste water treatment in the primary loop (high-consistency cleaners, pressure screens) and an upgrade of pipes in the constant section.
- Upgrade of white water system with an improved mixing of stock flows (Lobemix).
- Installation of a new headbox with dilution (improved grammage cross-section profile).
- Installation of new dewatering elements on the wire section.
- Installation of the top wire (Duoformer D) for the reduction of paper two-sidedness and improvement of ash z-profile.
- Installation of new rolls on the wire section.
- Upgrade of the 3rd press to reduce paper draw in the press section.
- Installation of stabilization chests in the 2nd dryer section (Twinrun) to prevent paper fluttering.
- Operation upgrade of the top drying wire on the 5th dryer section.
- Upgrade of the soft-nip calender by installing new SYM-CD rolls (hydraulic zone charge) to improve thickness profile.
- A new QCS measuring framework with a system upgrade and an additional measurement of the optical properties of paper, including DAA, a system for data archiving.
- Installation of new drives on the paper machine with operation capacity of 1000 m/min on the wire, including a PLC remote control system.
- A completely new DCS system DNA for stock preparation, primary and secondary loop, vacuum system, calender and cross-section regulation of paper grammage and thickness.
- WIS system for camera-controlled monitoring of paper (transmission).
- New guiding rolls in the dryer section and at the calender, and spreader rolls in the press area.
- Construction of an annex and a new control room and server space, including a new switching room for electro drives.

2007

- On 13 February 2007 the Supervisory Board appointed Andraž Stegu as the Managing Director of the company. Mr. Stegu thus entered his third mandate.
- On 22 June 2007 a contract was signed for the construction of a new end product storage hall, which started in August of the same year.
- On 12 October 2007 the paper mill hosted the traditional Environmental Day of the Pulp, Paper and Paper Converting Industry Association of Slovenia.
- In 2007, record gross production and record average speed of 790 m/min were recorded, and 78,616 net tons of paper were produced on the paper machine. In addition, a record amount – 13,200 net tons of paper – were cut in the finishing department.

After such a large-scale investment into the paper machine, deficiencies are unfortunately inevitable, and their detection and elimination is reflected in total capacity fluctuation. In both post-investment years, 2002 and 2007, the total annual capacity was 75.5%.

An adequate level of total capacity with minimum material loss and constant quality is the basic condition for effective production. Total capacity indirectly affects the specific energy consumption, which – due to the constant price increases – is becoming one of the key factors of cost efficiency.

- The Slovenian Environment Agency issued an environmental permit in compliance with the IPPC Directive to Goričane d.d. for the period of 10 years. Goričane d.d. thus became the first paper mill in Slovenia to own this permit.
- In November 2007, a contract was signed for the purchase of a new fully equipped sheet cutter that enables the cutting of low grammage paper as well.

- In May 2008, a new sheet cutter was installed in the finishing department, resulting in cutting capacity being increased from 14,000 to 30,000 tons a year, and a new packaging line for sheet paper.
- The annual total investment cost in 2008 exceeded EUR 3 million.

A new sheet cutter (PRS 2) was purchased from Milltex and a new pallet packaging line was installed. This investment has contributed to a significant increase in the amount of sheet paper and the sheet paper has a considerably higher added value than paper in rolls.

The sheet cutter had 6 feeding spots, 1600 m of operating width, max. operating speed of 300 m/min, 4 longitudinal knives and an automatic pallet replacement. Cutting capacity depends on the paper grade but averages from 21,000 to 75,000 kg of paper per shift. Theoretically, the capacity of the sheet paper packaging line (pallet packaging) is 40 pallets per hour or – in normal production conditions – approximately 20 pallets per hour. In order to install the two machines, we had to expand the finishing area and change the position

of some of the smaller finishing machines and devices.

The sheet cutter was used for formats of 400–1600 mm of width or length respectively, with maximum machine load amounting to 600 g/m². The machine was designed to cut different paper grades and the manufacturer guarantees quality cuts of grammages from 40 to 150 g/m². Each feeding spot is equipped with separate regulation of the paper runnability. The cutting part is equipped with four longitudinal and one transverse knife. The advantage of the so-called synchro longitudinal knife is a very quality cut even with heavier machine loads (600 g/m²). Four longitudinal knives allow for three pallets to be made at the same time (the so-called triples). The paletomat's operation is automatic and optimised in a way to lose as few sheets as possible during pallet exchange, whereas the replacement of a full pallet with an empty one is performed automatically. The packaging line was supplied by the Reker company from Germany. The assembly is composed of several standard lines on which machines are placed. Step by step, they pack the paper up into a heat seal coated foil.

2008

- On 31 October 2008 Paper mill Goričane acquired the FSC® certificate for sustainable forest management within the FSC Chain of Custody.
- The construction works for the warehouse expansion began in November 2008. Due to the increased production volume the existing capacities were no longer sufficient. The new building had more than 4400 m² and was intended for storing paper in rolls and sheets. The plan also included an upgrade into a rack-shelve storage, which is why partial infrastructure was constructed for this purpose.



New sheet cutter



- Upgrade and expansion of air recuperation from the drying hood:
Due to the wear and tear, the drying hood became a sort of a bottleneck. The plan included a replacement and upgrade of the pre-dryer section recuperation system's main assemblies, and a partial replacement and renovation of the assemblies in the post-dryer section.

The main assemblies of the new machinery are: drying hood ventilation, production hall ventilation and heating and storage hall heating in the finishing department. The new equipment increased the paper drying capacity and decreased the level of humidity in both the drying hood and the hall itself, especially in the presses-coater area.

In addition, the goal of the reconstruction was to decrease the loss of heat and power, reduce the number of paper breaks in the dryer section, improve the safety of operation and maintenance, and ensure appropriate climate conditions throughout the paper machine hall.

After a technological and financial analysis, the management decided to

accept an offer submitted by Metso Paper from Gorizia, involving Tip95 as the subcontractor. By handing all tasks necessary over to a single company, we were able to ensure quality implementation without any unnecessary shutdowns and time-consuming coordination among multiple contractors. The Goričane Department of Electronics invested their knowledge and experience in creating software for controlling, monitoring the system as a whole and visualisation.

In 2009, the paper machine operated with max. speed of 950 m/min on the pope reel without exhibiting any kind of issue in recuperation.

The upgraded waste air recuperation contributed to an improved efficiency rate of the invested energy and a decrease in the consumption of fresh steam respectively.

The project therefore helped improve the air conditioning situation in the dryer section, produce more energy for fresh water heating and increase the dew point. The micro air conditioning in the PM hall was improved as well.

- The old Jagenberg sheet cutter was upgraded in 2009 as well, which

additionally increased the capacity of cutting paper into sheets. It also provided for additional cutting of low grammages and at that point in time, that gave us significant advantage on the market since the demand for sheet-cut paper was increasing much faster than we the company had planned.

- On 14th November 2009, Paper mill Goričane organized an Open Doors Day for the employees' family members. More than a hundred relatives of our employees visited the production department and the paper mill.
- In 2009, the company had a record profit of EUR 4 million.



New recuperation

→ 2010 ←

→ 2011 ←

- The last phase of the storage expansion was complete and followed by a period of smaller investments related to the paper machine operation (new leading rolls, new roll covers, spreader rolls and in-process storage tanks), the upgrades of control and monitoring systems (various measuring devices, control systems, laboratory equipment), environmental protection (monitoring of water pumping and consumption) and the provision of a proper working environment.
- Throughout the year, intense activities were performed in the framework of the ZEROEF project as a part of the EUREKA project.
- In 2011, the sales needs required the purchase of a new high-speed sheet cutting line. The new Polar 137 X high-speed cutter is supplied with automatic loading platform, shaker device and stacker. The new line helped us improve quality, flexibility and responsiveness to the demand for sheet paper. In addition to acquiring a line for sheet paper high-speed cutting, another of our long-time wishes came true. The purchase of the new line included a pallet reverser equipped with a blower which has been successfully installed and activated by our employees.



High-speed cutter Polar 137 X

2012

- The increasing amount of sheet paper has strengthened our desire to cut sheet paper into another grade in order to improve flexibility, increase the number of small orders and reduce the accumulation of finished products in stock. The plan was fulfilled in February 2012 with the start-up of the high-speed cutter that was installed and activated by our maintenance team. The demand for sheet-cut paper was constantly increasing, which motivated us to add an additional shift for paper cutting.
- In September, we successfully completed an overhaul of the steam turbine in the energy sector. This particular overhaul is done every 10 to 15 years.
- Undoubtedly, the most important investment in production was the replacement of the pulp line no. 1 that had been operating since 1975. The goal of this project was to provide the latest pulper with a completely automated cycle of hardwood and softwood pulping on the same line. The project involved numerous companies from Sweden, Slovenia, Austria and Germany. The line start-up and the process automation were based exclusively on the know-how of our maintainers and technologists. The project was worth EUR 0.5 million.



New pulp line

2013

- The year 2013 was one of the most difficult years in company's history but despite that, it made sure to further invest and develop its operations.

Due to the continuously increasing demand for sheet cut paper, another investment was made into the cutting capacity of the sheet cutter PRS1 in 2013. Two additional feeding devices were installed, and all the feeding stations received new guide rolls, spreader rolls and straightening rolls and an automatic positioning of the paper rolls. All this allows for a more efficient cut, especially of low-grammage papers that are subject to an increasing demand on the market.

- The company implemented a new PEFC™ certificate for sustainable forest management, aiming to further increase the awareness of everyone involved in the wood and wood product supply chain.

2014

- In April, the energy sector started the preparatory works for the installation of a new, state-of-the-art environmentally friendly steam boiler made by Bosch, with capacity of 25 tons of saturated steam per hour.

Although the boiler itself already exhibits an exceptionally high efficiency level (97.5%), with additional heat exchangers for the preheating of boiler feed water and combustion air, it theoretically even exceeds 100%. The complete investment was worth EUR 1.2 million and provides for at least a 25% saving in the consumption of energy products, and consequently lower emission of CO₂. In addition, boiler operation is easily adjusted to the production's demand for steam.

This was the first significant investment in the energy sector in the last 40 years. The investment was both economically and environmentally motivated.

- Investment in cut-off transport at the finishing department

Due to the increased amount of sheet cut paper, the cut-offs transport line was upgraded as well, thus enabling flexible cutting of paper in the finishing department regardless of the paper grade on the PM.



New steam boiler

- Upgrade of 20 kV switchgear and a new distribution line

With its monthly consumption exceeding 4 GWh, Paper mill Goričane is one of the biggest consumers of electricity. Before 2013, the paper mill's power supply was arranged through two medium-voltage (20 kV) distribution lines. The paper mill is most visibly connected to the distribution line's T-pole between the towns of Medvode and Škofja Loka, on the edge of the mill's premises. This particular transmission line has been used for supplying power to paper mill Goričane from the 1960s. However, the maximum consumption power supplied through this line is limited to 7.3 MW. The second distribution line is installed entirely underground and connects Goričane with the public power distribution network. It was installed more than 10 years ago and allows for a receiving supply that exceeds 4 MW of power. Following the decision to purchase a new steam boiler, preparations had to be made for a proportionately increased and stable receiving power supply from the public power distribution network. A new distribution line was therefore the third one for our paper mill. In order to connect the new line to the paper mill, we had to build a

new high-voltage (HV) bay and at the same time partly upgrade the rest of the power equipment in the 20 kV switchgear.

- The new line, allowing for over 8 MW of receiving power supply, and the new equipment in our RTP space, secure a more stable and reliable, power supply of paper mill Goričane.
- In addition to these investments, the computer network in the production process was upgraded in 2014.
- In the environmental sphere, the traceability of wood origin in accordance with the EUTR Directive was adjusted in 2014. New requirements were established regarding wood traceability and the system of due diligence in the supply chain pursuant to FSC-DIR 40-004 and PEFC ST 2002:2013.
- In August, an agreement was reached between Paper mill Goričane and its financial creditors on a voluntary preventive financial restructuring of the company's liabilities for the 2014–2017 period.

2015

- Due to the increasingly strict customer demands and the need to control the input of raw materials, an investment was made in 2015 to purchase laboratory equipment enabling a continuous control of raw material input, a better implementation of daily measurements of the quality of paper produced, and a faster response to the customers' feedback on quality.
- The paper machine needed a replacement of dewatering elements and an upgrade of the cleaning elements in the constant section. These investments improved the operation of the paper machine and reduced the number of paper breaks and the amount of impurities in base paper.
- The broke treatment line was upgraded as well and a new pulper was installed.
- On the 14th October 2015 the Supervisory Board appointed Andraž Stegu as the Managing Director of the company. Mr Stegu thus entered his fifth mandate.

2016 and further

- For 2016, the company is planning to launch a project focused on installing a biological waste water treatment plant.



New laboratory equipment

CONCLUSION

The historic overview of the development of the Goričane paper mill is a vivid depiction of how mostly two factors influence the long-term success of a company in an ever changing environment.

The first factor is undoubtedly the technology or the ability of the company to follow or even exceed both the expectations of buyers and the development of competitors. The demonstration of technological advancement over the course of time clearly shows the dynamic development of this ancient craft of paper production. The demonstration proves that the one characteristic that is still preserved, after all the technological and procedural changes of the past, is the extraordinary »guild-like« dedication of everyone involved in the papermaking processes along with their affection for this noble product.

The second factor is the entrepreneurial courage. This demonstration is therefore also the evidence of successive generations of entrepreneurs, investors and directors who have lived in these places and believed in the capability of this location to not only survive but

also to establish itself as a great example of papermaking industry for the once European and nowadays for the global audience. Some of the steps of our predecessors were remarkably courageous and above all those people did not bow to the common mind-set of the time. This is the very reason why today we can celebrate the 40th anniversary of the instalment of the paper machine which was back then a true surprise for all the observers – the well-intentioned ones and the ones that were slightly less well-intentioned. This historic breakdown, however, also reminds us that the entrepreneurial courage cannot bear fruit without the proper capital backing.

These are the experiences of the papermakers who presently lead, manage and keep improving the Goričane company. That is why it is completely clear that the upcoming reports in future years will have to be full of stories regarding the technological and other types of innovations. They are being planned already at the present moment and we are looking forward to their implementation.

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