

Mill	Target	Main comp Used valve Automati	Year
UPM Kuusankoski	Sizer loading hydraulics update	Valve pane BoschRexr Siemens S	2011
UPM Kuusankoski	WinRoll winder hydraulics runnability update	Pressure a - Siemens S	2012
UPM Kuusankoski	Press section nips loading valves modenization	Manifolds - BoschRexr -	2012
Kotkamills	Middle press loading hydraulics modenization	Valve pane BoschRexr MetsoDNA	2013
Kotkamills	Machine calender loading hydraulics modenization	Valve pane BoschRexr MetsoDNA	2013
UPM Kuusankoski	Machine calender loading hydraulics modenization	Manifolds - BoschRexr -	2014
Metsä Tissue Mänttä	Tissue machine line new hydraulic system	Hydraulic t BoschRexr MetsoDNA	2015
Stora Enso Oulu	Matt calender SYMZS-roll zone valves modernization	Valve pane BoschRexr Siemens S	2015
UPM Kuusankoski	Reel secondary arms hydraulic modernization	Gear flow c - -	2015
Powerflute Savon Sellu	Screening new hydraulic system	Hydraulic t BoschRexr MetsoDNA	2016
Stora Enso Anjalankoski	Machine calender change from pneumatic to hydraulic	Loading cy BoschRexr Siemens P	2016
StoraEnso Kaukopää	OptiReel hydraulic change	Valve comj - MetsoDNA	2016
Stora Enso Uimaharju	Third press loading hydraulic modenization	Valve pane BoschRexr Total Plant	2016
UPM Kuusankoski	Sheeter hydraulics update	Gear flow c - -	2016
UPM Pietarsaari	Pulp drying machine loading hydraulics modernization	Valve pane BoschRexr MetsoDNA	2016
Metsä Board Äänekoski	Middle and machine calender roll and loading hydraulics modernization	Loading ar BoschRexr Total Plant	2017
UPM Kuusankoski	Reel primary arms hydraulic modenization	Valve pane BoschRexr Siemens S	2017
UPM Pietarsaari	2 pieces of sheeter hydraulics modenization	Hydraulic t BoschRexr Siemens S	2017
UPM Pietarsaari	Hydraulic unit updates (shoe press + wet end)	Pressure a - MetsoDNA	2017
Stora Enso Kaukopää KA2	Press and wire section hydraulics modernization	Hydraulic t BoschRexr MetsoDNA	2017
Stora Enso Anjalankoski PK3	Dryer section wire winding stations+roll	Hydraulic t BoschRexr Siemens S	2017
Stora Enso Kaukopää KA2	Winder hydraulic modernization	Change of BoschRexr Siemens S	2018
Metsä Board Kyröskoski KK1	Middle and machine calender loading hydraulics modernization	Change of BoschRexr MetsoDNA	2018
Stora Enso Anjalankoski PK3	Reel hydraulic update	Pressure a BoschRexr Siemens S	2018

**Nip measurements (press section, calander, sizer, etc)**

UPM Kymi PM9 (Finland)  
UPM Kymi PM8 (Finland)  
UPM Rauma PM3 (Finland)  
UPM Rauma PM4 (Finland)  
UPM Kaukas PM1 (Finland)  
UPM Kaukas PM2 (Finland)  
Metsä Group Kyröskoski PM (Finland)  
Kotkamills Kotka PM1 (Finland)  
Stora Enso Anjalankoski PM2 (Finland)  
Stora Enso Anjalankoski PM3 (Finland)  
Stora Enso Varkaus PM3 (Finland)  
Stora Enso Nymölla PM1 (Sweden)  
Mondi Dynäs PM6 (Sweden)  
Paper Corea PM1 (Corea)  
Paper Corea PM2 (Corea)  
Modern Karton PM4 (Turkey)  
Mondi Tire Kutsan PM1 & PM2 (Turkey)  
Mondi Stambolijski PM2 (Bulgaria)  
Thai Paper PM4 (Thailand)  
Thai Paper PM5 (Thailand)  
Tervakoski PM3, PM8, PM11 ja PM12 (Finland)  
Billerud Korsnäs Tervasaari PM7 (Finland)  
Billerud Korsnäs Pietarsaari PM1 (Finland)  
VTT pilot machine (Finland)  
Metsä Group Kyröskoski BM (Finland)  
Metsä Group Äänekoski Board (Finland)  
Metsä Group Simpele BM3 (Finland)  
Sonoco Alcore Karhula BM1 (Finland)  
Savon Sellu BM1 (Finland)  
Stora Enso Inkeroinen BM4 (Finland)  
Stora Enso Kaukopää BM2, BM4, PE3, PE5, PE6, PM6  
Stora Enso Heinola BM1 (Finland)  
Pankaboard BM2 (Finland)  
Domtar Plymouth (USA)  
Bahia Specialty Cellulose (Brazil)  
Metsä Fiber Joutseno PDM (Finland)  
UPM Pietarsaari PDM1 (Finland)  
Enocell Uimaharju PDM1 (Finland)  
Metsä Tissue Mänttä TM10 (Finland)  
Metsä Tissue Mänttä TM1 (Finland)  
Stora Enso Anjalankoski (Finland) Twin-wire presses  
Sappi Kirkniemi (Finland) Twin-wire presses  
Essity nokia TM7 & TM9  
Essity Sovetsk TM1 & TM2 (Russia)  
Essity Stembert TM1 & TM2 (Belgium)  
Halkali Kagit PM2 (Turkey)  
Pakistan Century PM7 (Pakistan)  
Mayak-Vega PM2 (Russia)

**Hydraulic audits and tunings (condition monitoring measurements, problem solvings and optimizations on press section (including shoe presses), dryer section, sizepress, calender, reel, winder etc)**

Kotkamills PM1

Metsä Group Mänttä TM10

Metsä Group Kyröskoski PM1

Metsä Group Kyröskoski PM3

Metsä Group Simpele

Metsä Group Äänekoski Board

Mondi Dynäs (Sweden)

Mondi Tire Kutsan PM1 (Turkey)

Mondi Tire Kutsan PM2 (Turkey)

Munksjö La Gere (France)

PowerFlute Savon Sellu

Stora Enso Anjalankoski PM2

Stora Enso Anjalankoski PM3

Stora Enso Anjalankoski PGW

Stora Enso Inkeroinen board

Stora Enso Oulu PCM7

Stora Enso Veitsiluoto PM2

Stora Enso Nymölla PM1 (Sweden)

Thai Cane Paper PM2 (Thailand)

Thai Paper PM4 (Thailand)

Thai Paper PM5 (Thailand)

UPM Jämsänkoski PM5

UPM Kaukas PM2

UPM Kymi PM8

UPM Kymi PM9

UPM Rauma PM2

UPM Rauma PM3

UPM Rauma PM4

Mondi Stambolijski (Bulgaria)

Dunafin PM9 (Hungary)

**Tension measurements renewals:**

Savon Sellu BM1

Mylykoski Paper SC41 & SC42

Stora Enso Oulu PM6

Stora Enso Inkeroinen BM4

**Fabric stretcher tests and tension optimizations:**

Kotkamills Kotka dryer section

UPM Kymi PM8 dryer section variable-angle stretchers

UPM Rauma PM2 dryer section

UPM Rauma PM3 press and dryer section

UPM Rauma PM4 press and dryer section

UPM Tervasaari PM8 dryer section

UPM Jämsänkoski PM5 dryer section

StoraEnso Oulu PM6/PCM7 stretcher motor change, test and tuning

Thai Cane Paper BM2 (Thailand) wire section

Savon sellu BM1 winder paper web tension measurement tuning

Metsä Board Kemi winder paper web tension measurement tuning

Metsä Board Kemi press and wire section fabric tension measurement tuning

Kimberly Clark Ltd. Barrow In Furness PM1

UPM Kaukas PK1

**Steam box and electromechanical actuator services**

UPM Kymi PM8  
UPM Kymi PM9  
Thai Paper PM5 (Thailand)  
UPM Rauma PM4  
Metsä Fibre Kemi BM1  
Thai Paper PM4  
UPM Kaukas PM1  
UPM Kaukas PK2  
UPM Shotton PM2  
Tervakoski PM8, PM11 & PM12  
Holmen Paper Hallstavik PM11 (Sweden)  
Actuators serviced over 100 pcs. (STC-900, EMA1000, EMA15)

**Doctor surveys, services and alignments:**

Stora Enso Kvarnsveden PM12 (Sweden)  
Stora Enso Inkeroinen BM4  
Stora Enso Oulu PM6 & PM7  
Metsä Group Mänttä PM7  
Stora Enso Veitsiluoto PM3  
Jujo Thermal Kauttua  
Tervakoski PM8  
Tervakoski PM11  
Tervakoski PM12  
Stora Enso Kaukopää KA1  
VTT pilot machine

**Alignment measurements and adjustments:**

Thai Cane Paper BM2 (Thailand)  
Kotkamills Kotka PM1  
Savon Sellu BM1  
BillerudKorsnäs PM1  
Modern Karton PM4 (Turkey)  
Sappi Kirkniemi  
Stora Enso Heinola BM1  
Metsä Board Simpele BM1  
VTT pilot machine  
Stora Enso Inkeroinen BM4  
Stora Enso Anjalankoski PK3  
Mondi Stambolijski PM1  
Metsä Group Simpele BM3 (Finland)  
Stora Enso Tainionkoski KA5

**Reel troubleshooting, condition test and tuning:**

Thai Paper PM4 (Thailand)

Thai Paper PM5 (Thailand)

Thai Cane Paper BM2 (Thailand)

Munksjö La Gere (France)

Dunaujvaros Dunafin PM9 (Hungary)

Stora Enso Kaukopää KA4

Kotkamills PM1

UPM Kymi PK9

Stora Enso Anjalankoski PK3

Munksjo La Gere

Metsä Tissue Mänttä TM10

**Winder troubleshooting, condition test and tuning:**

UPM Kymi PK8 (WinRoll)

Metsä Group (M-Real) Kyröskoski PM3 (KL)

Powerflute Savon Sellu (KL)

Stora Enso Anjalankoski PM3 (KL)

**Delivered measurement equipment**

AM1 doctor blade angle meters over 100 pcs sold globally

BA1 Shoe Press shoe alignment device

Doctor holder straightness measuring device

FPM-4 - Handheld Pressure Meter