



**PINKIDE TEENINDAMISE AUTOMATISEERIMINE
VIDRIK INFOPÄEV 05.04.2023**



DEMEK CNC

- Asutatud 2017 a. aprillis
- Metallitöötlemis masinad ja automatiseerimine
- DMG MORI esindaja Balti riikides
- Universal Robots esindaja Eestis ja Lätis
- MiR, Cajo, Robotiq esindaja Balti riikides
- 10 töötajat, 8 Eestis, 2 Leedus



Detailide vahetamine

- Gantry loader
- Robot
- Bar feeder, part unloader

Palettide vahetamine

- Ringladude süsteem
- Lineaarsete ladude süsteem

Tööriistade automaatne vahetamine pinkide vahel

AMR, AGV – transpordi robot detailide,
palettide või tööriistade vahetamiseks

The diagram illustrates various automation solutions categorized into Workpiece Handling and Pallet Handling. It includes a grid of equipment types with specific model names and a responsibility matrix on the right.

WORKPIECE HANDLING		PALLET HANDLING	
GANTRY LOADER	ROBOT	ROUND STORAGE SYSTEM	LINEAR STORAGE SYSTEM
GX	WH	PH	CPP
GX T	IMTR	LPP	
SR	MATRIS	AWC	
	Robo2Go	RPS	

50 Standard Automation Solutions

Responsibility Matrix:

Responsibility	DMG MORI plants + partner	DMG MORI plants + DMG MORI HEITEC	DMG MORI plants
Fully-integrated solutions incl. peripheral	III	II	I
WH Top		DMG MORI HEITEC	
WH Front			
WH			
PH			
Automation interfaces & 3 rd party equipment	0		

Additional Notes:

- + Plants are general contractors all inquiries, offers & orders via plants of the machine to be automated
- + Service via DMG MORI for first level contact
- + DMG MORI HEITEC in charge of III & engineering partner for I & II
- + Decision of Steering Committee before III
- + Additional potential from 0 Push DMG MORI automations solutions



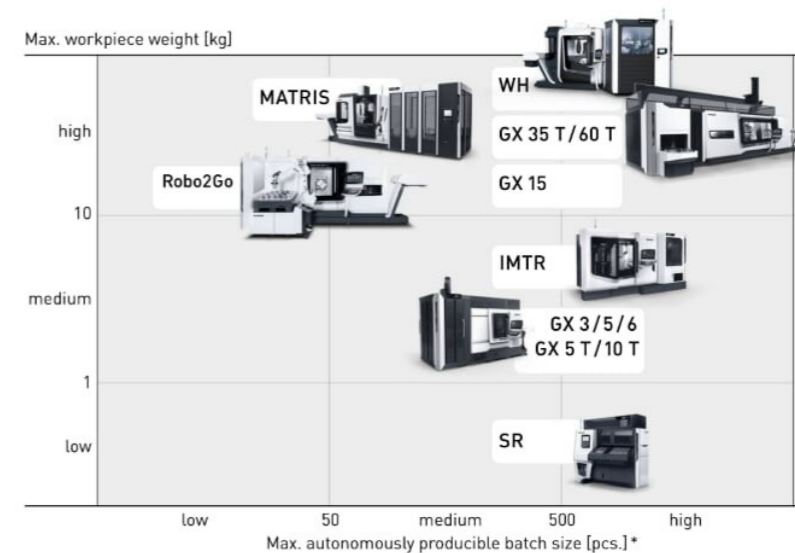
Detailide vahetamine

- Lihtsalt kohandatav detailidele
- Lisaoperatsioonid (faasimine, lihvimine, markeerimine, mõõtmise, detailide pesu)
- Kompaktne
- -Haarats vastavlt detailile

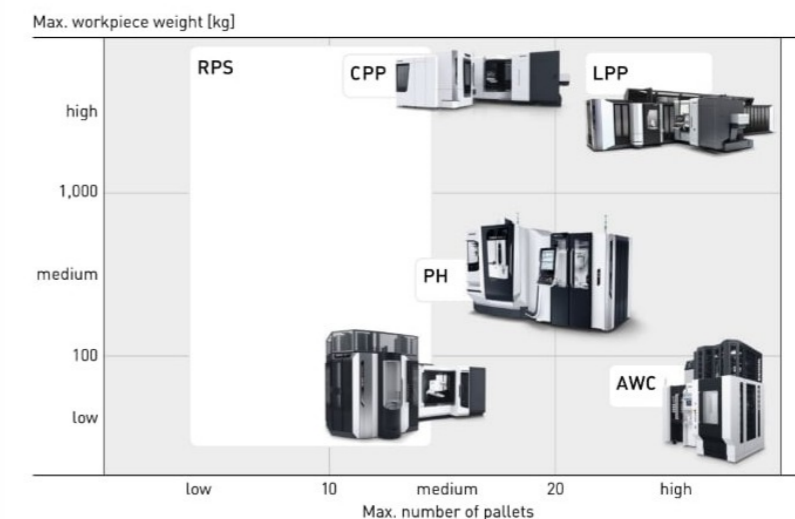
Palletide vahetus

- Paletil võib olla rohkem kui üks detail
- Paindlik, korraga võib töödelda erinevaid detaile
- Skaleeritav
- -Palettide ja rakiste maksumus tõstab süsteemi hinda

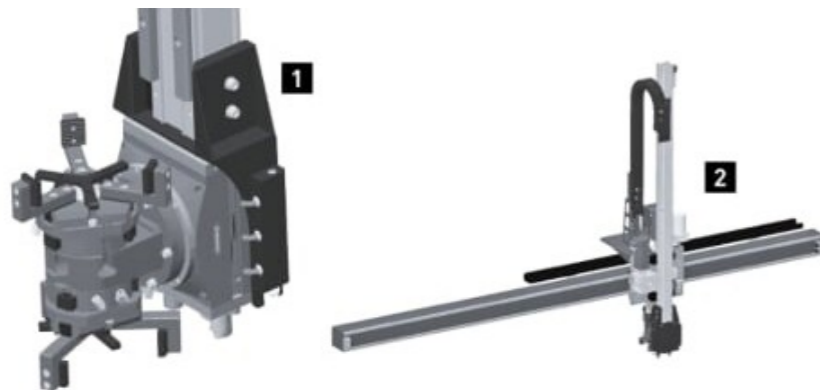
WEIGHT CATEGORIES WORKPIECE HANDLING



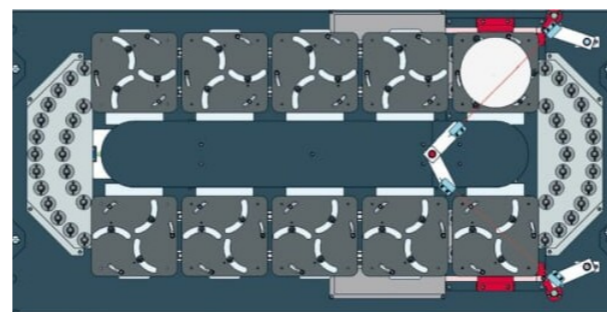
WEIGHT CATEGORIES PALLET HANDLING



- Detailide maks läbimõõt $\varnothing 180$ mm pikkus 140 mm kaal 6 kg.
- 3-sõrmega haarats
- Pingi ja roboti haldaminesama juhtsüsteemiga

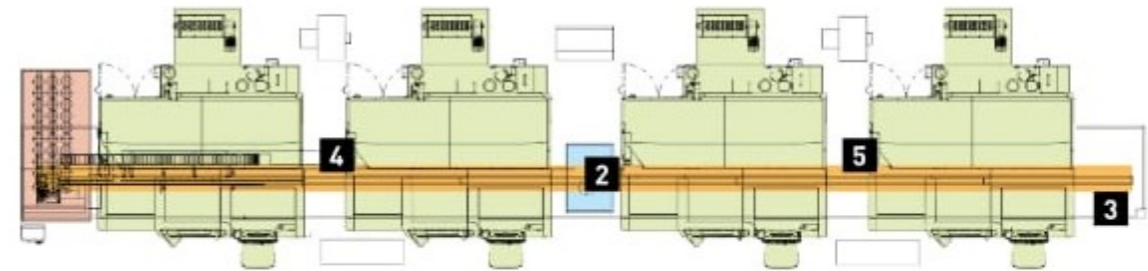


- 1** 3-finger centric double-gripper with rotary unit for workpieces up to $\varnothing 180 \times 140$ mm and weight up to 6 kg [dedicated for CLX 350 with GX 6]
- 2** Rack and pinion based linear robot system with servodrive in both axes

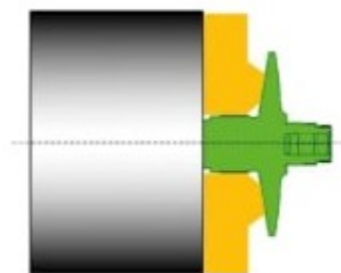


- Kliendile kohandatud süsteem
- 10 000 detaili kuus
- Kokkuhoid põranda pindalal 50%

SYSTEM

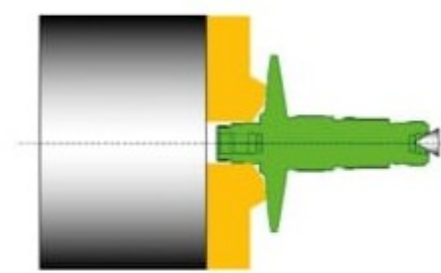


- 1** Material stocker
- 2** Turnover unit
- 3** Loader (2 arm spec.)
- 4** OP-10×2 units
- 5** OP-20×2 units



OP-10: NZX 2500 | 600

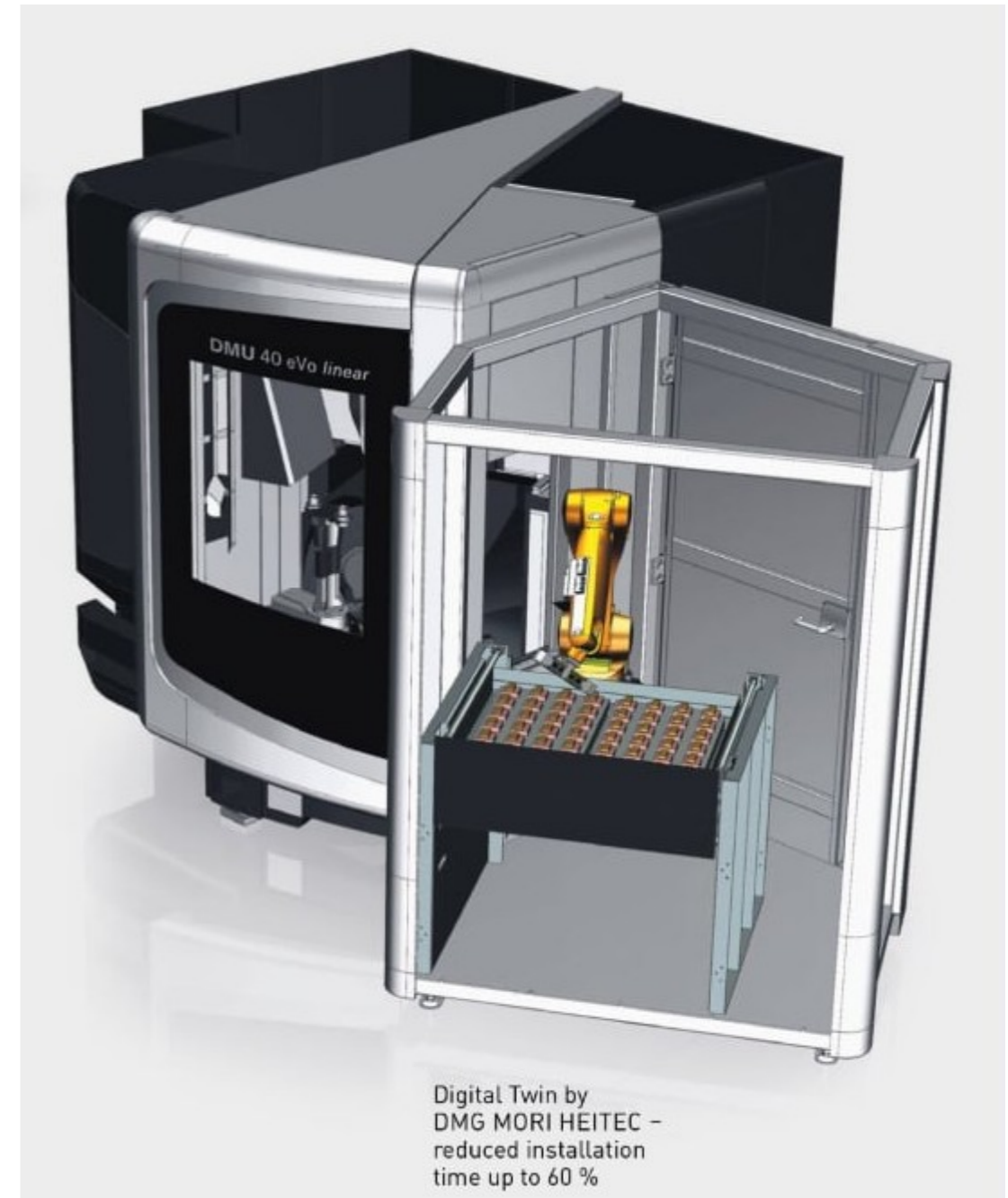
- + Hollow type
- + with indirect seat check
- + Power skiving



OP-20: NZX 2500 | 600

- + Long stroke chuck
- + with seating check
- + Hob machining

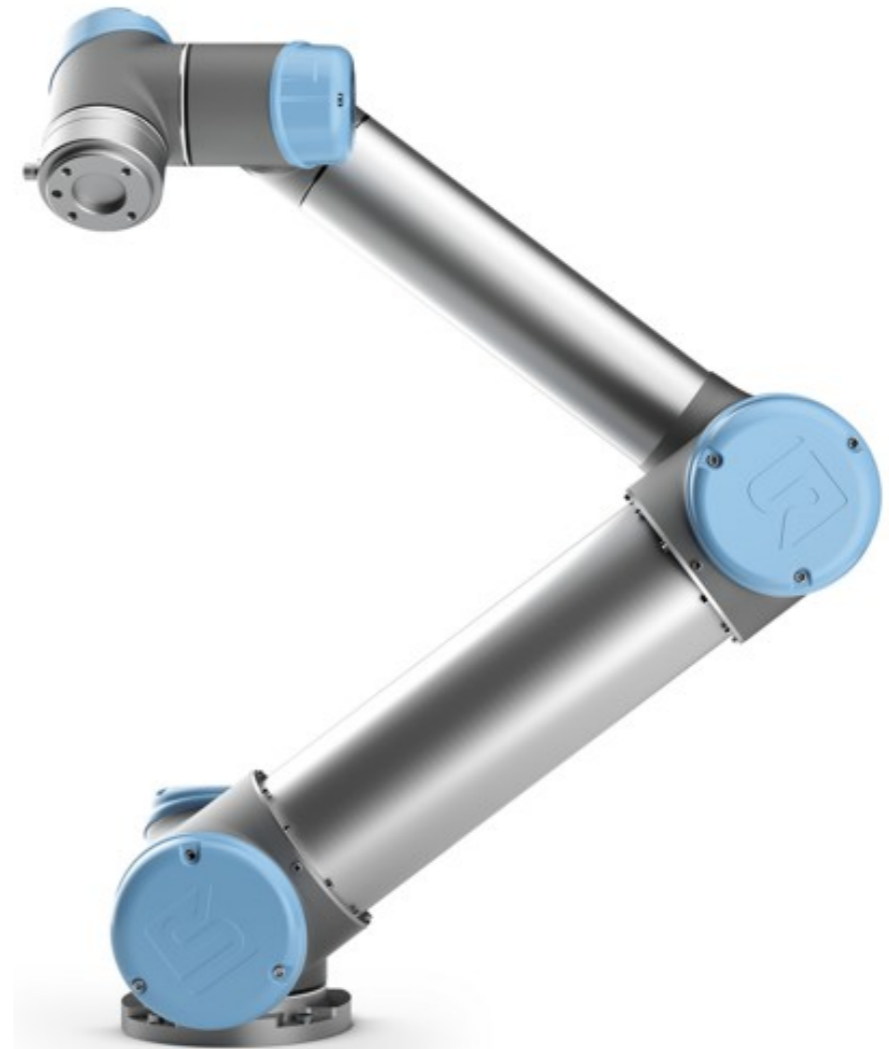




- DMG MORI DMP 70 töötlemiskeskus, Fanuc LR Mate robot
- Kuni 750 detaili



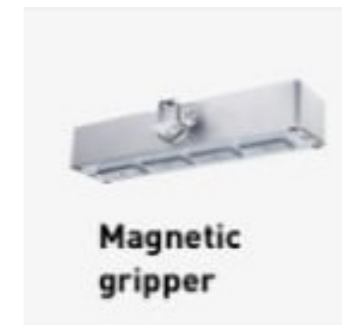
- Universal Robots – esimene massiliselt tööstuses kasutatav koostöörobot maailmas
- 3, 5, 10, 16, 20 kilo
- 80% kaitseaeda või laserit pole vaja
- Pinge teenindamine



- Haaratsid – mehhaanilised, pneumaatilised. 2 sõrmega, 3 sõrmega
- Haaratsi kiirvahetussüsteem
- Etteandjad (EasyRobotics)
- Jaotistega lauad
- Turvaaiad, muud turvaelemendid
- Kaamerad
- Sensorid
- Tarkvaara
- Lisa elemendid (mõõtmise, e, pesu, jne.)



Gripper quick-change system



Magnetic gripper



Drawer



Wrist Camera
2016 S/N 0-00001
Made in Canada



Stacking magazine



Shaft tray



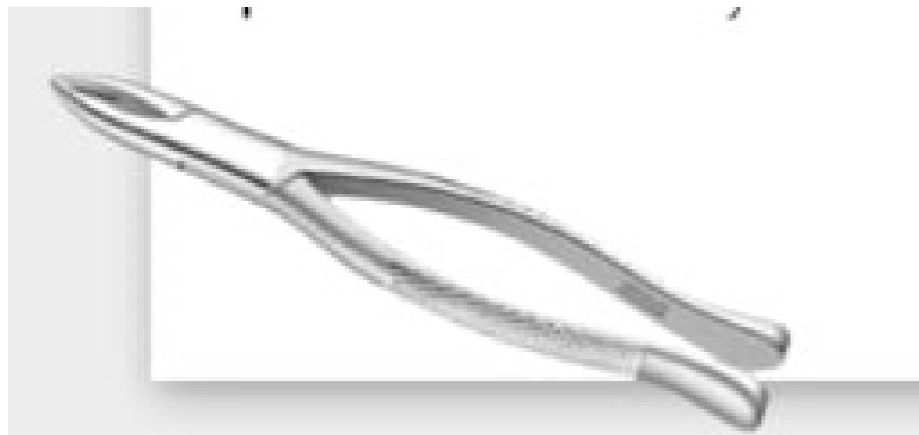
Safety fence



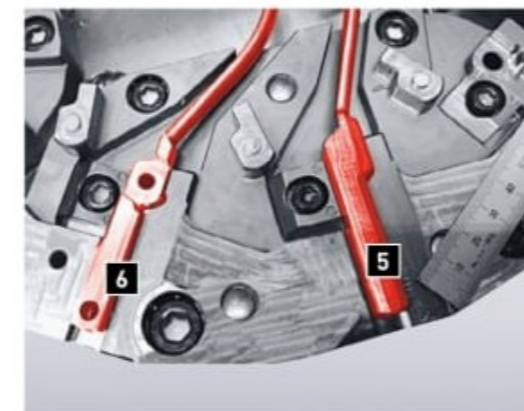
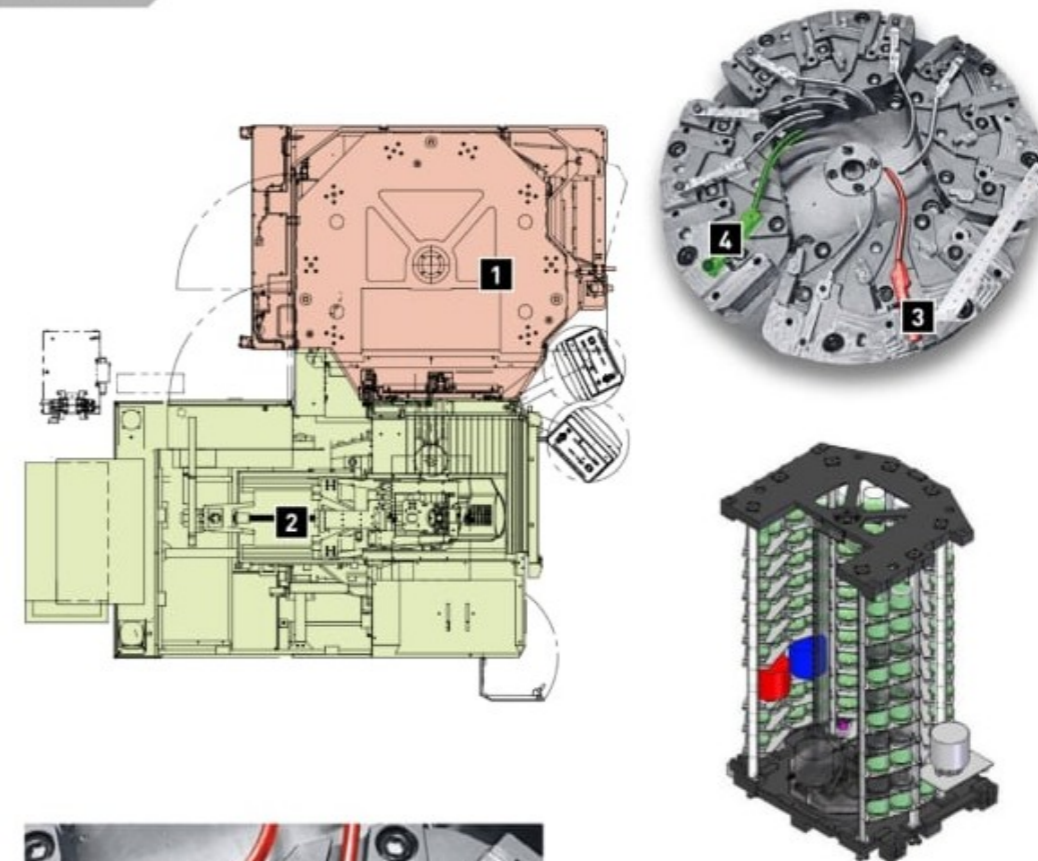
- Ring laondamise süsteem
- Paletid 320x320 kuni 500x500 mm, 6-12 paletti



- 12 detaili palletil
- Ühel paletil kogu detaili töötamine
- 114 pallets



SYSTEM

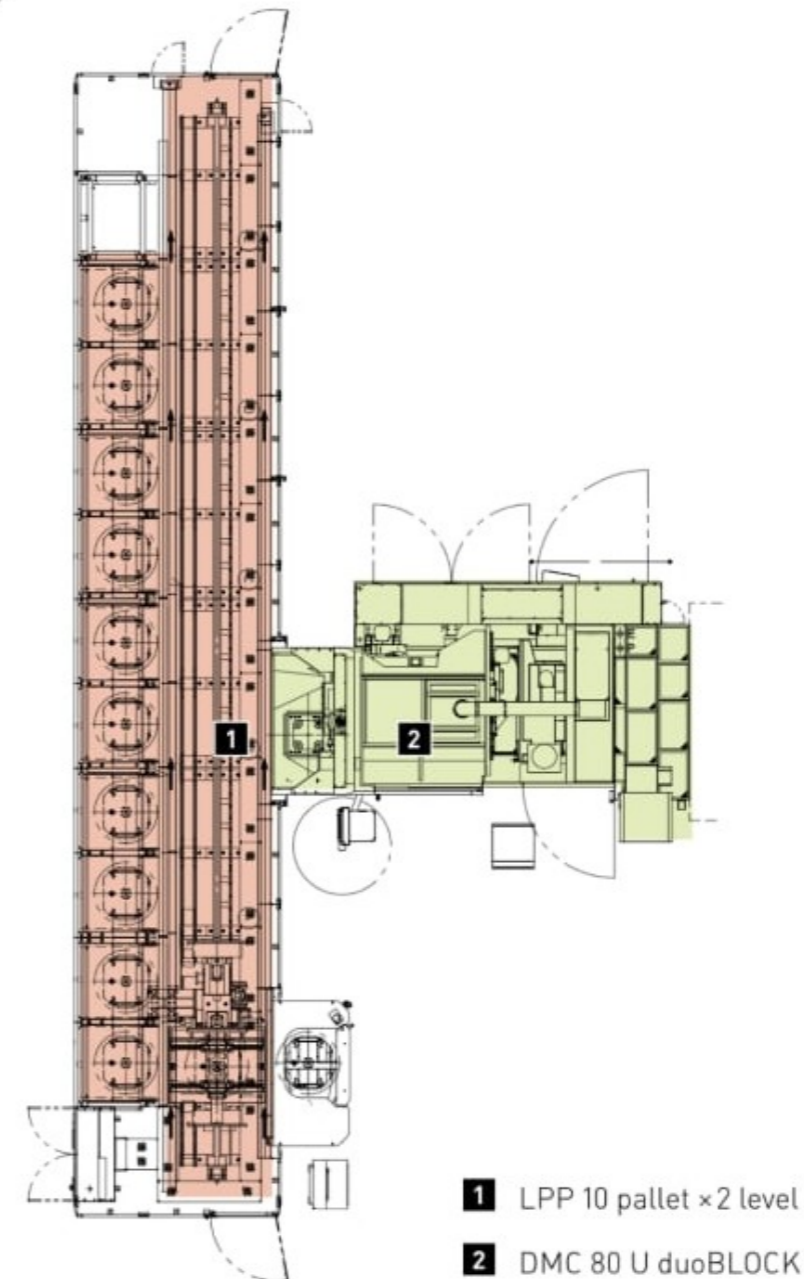


- 1** AWC
- 2** CMX 600 V
- 3** OP-1
- 4** OP-2
- 5** OP-1 (Raw)
- 6** OP-1 (Final)



- Lineaarne laosüsteem
- Palletid 630x630 mm
- DMG MORI DMC 80 U duoBLOCK

SYSTEM



- Treipingi teenindamine UR robotiga
- Painutuspingi teenindamine (Amada ja CoastONE), Amada 7. telg
- Trükitööstus, paberi lõikamismasina teenindamine
- 5-teljelised töötlemiskeskused, tööstusrobot kahe pingi vahel
- 5-teljelised töötlemiskeskused, palettide ringladu pinkide vahel.



Thank you

