



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 609391.

AREUS: AUTOMATION AND ROBOTICS FOR EUROPEAN SUSTAINABLE MANUFACTURING



UNIMORE
UNIVERSITÀ DEGLI STUDI DI
MODENA E REGGIO EMILIA

DAIMLER

CHALMERS
UNIVERSITY OF TECHNOLOGY

DELFOi
IT WILL BE



DTU
Technical University
of Denmark

KUKA

EngRoTec

SIR
SOLUZIONI INDUSTRIALI ROBOTIZZATE

systemworkx
3D Produktivität erleben

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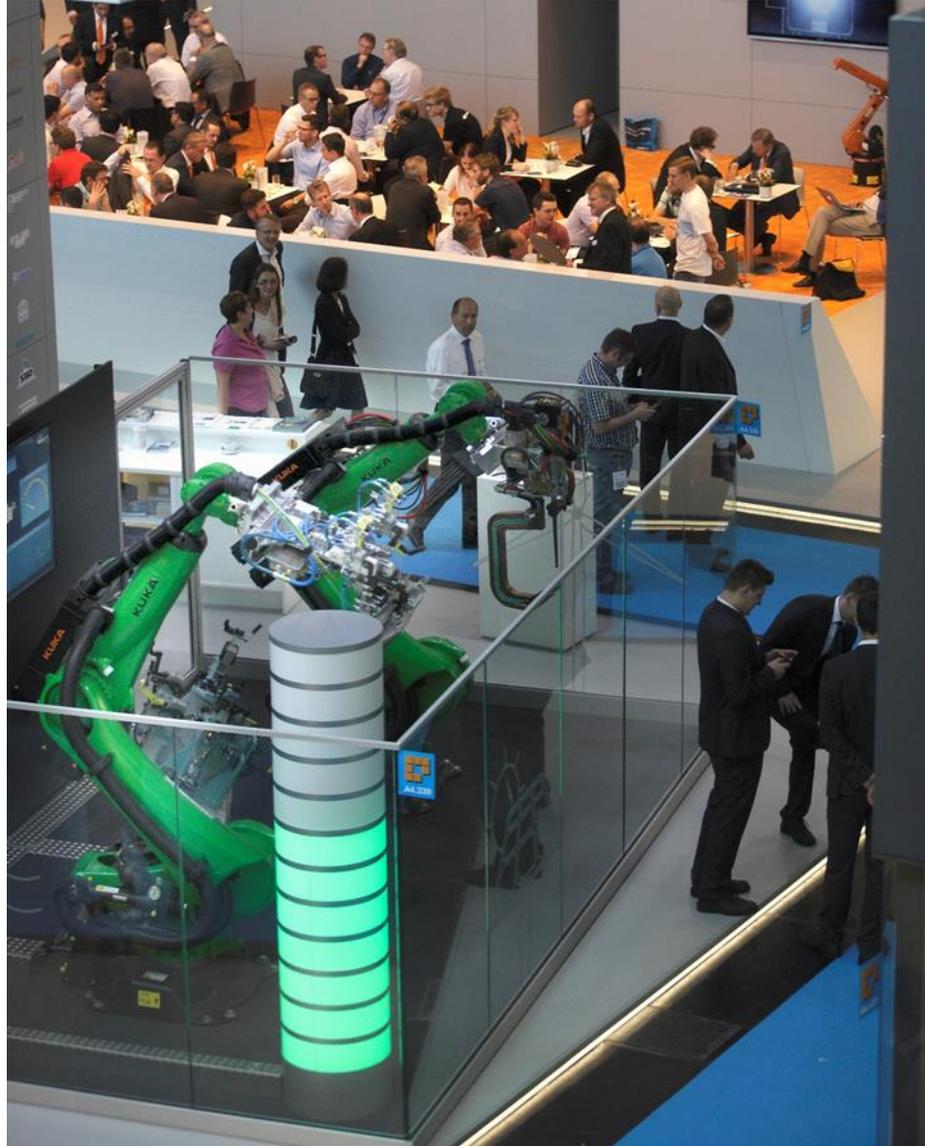
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Areus Control

DELFOI ROBOTICS **AREUS** **UNIMORE**
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Settings Sequence Comparison Program Graph

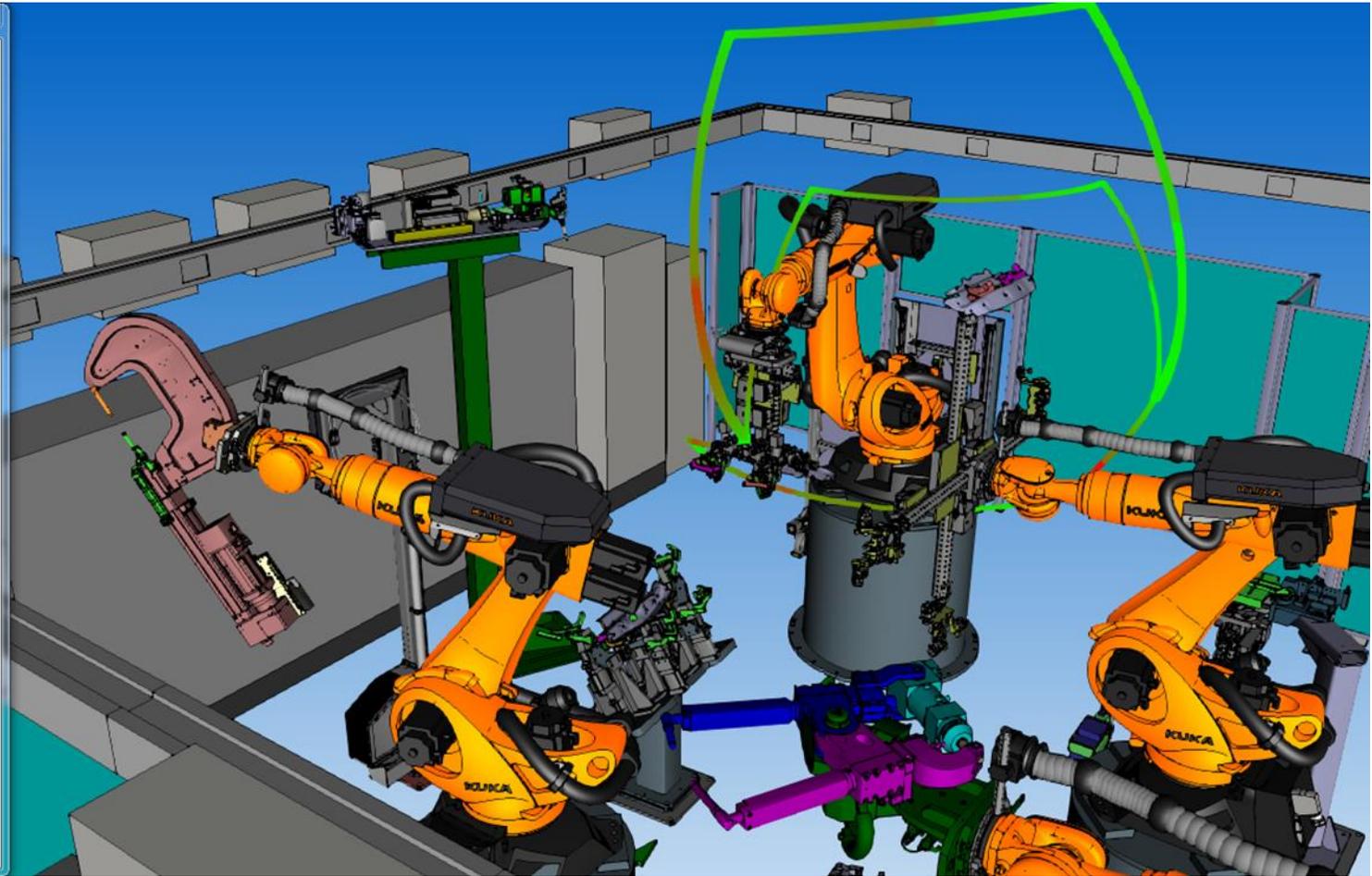
Path	Timestep, [s]	Resolved	Energy, [J]	Time, [s]
PathObject #19_c	0.01	Yes	11866.14	3.055
PathObject #20_c	0.01	Yes	17186.46	3.51
PathObject #21_c	0.01	Yes	10356.25	3.296

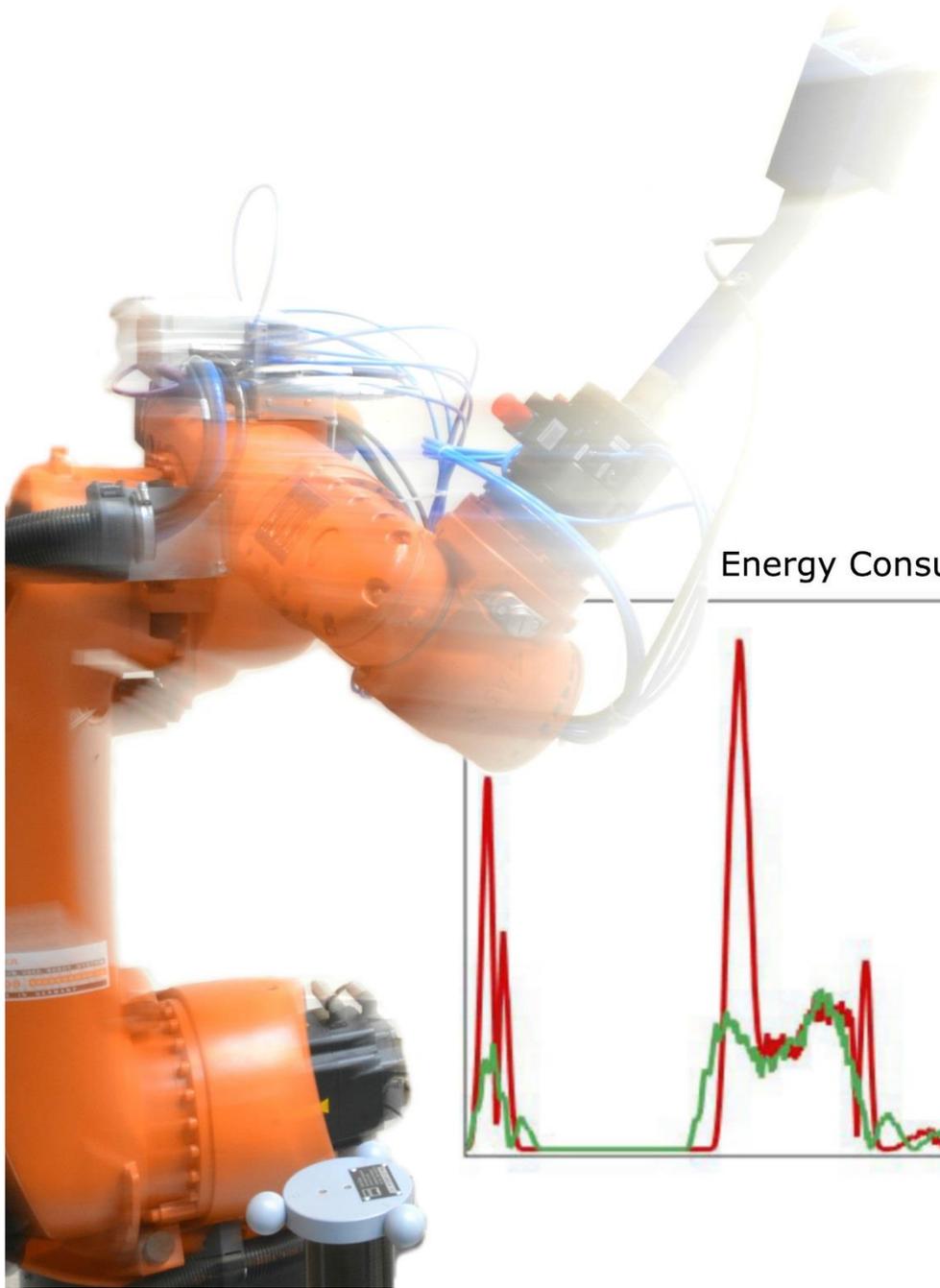
PX7
From robot
To robot
Clear
Visualize
All Auto

Path Calculate All Optimize All
Path All Resolve All Max time, [s] 3

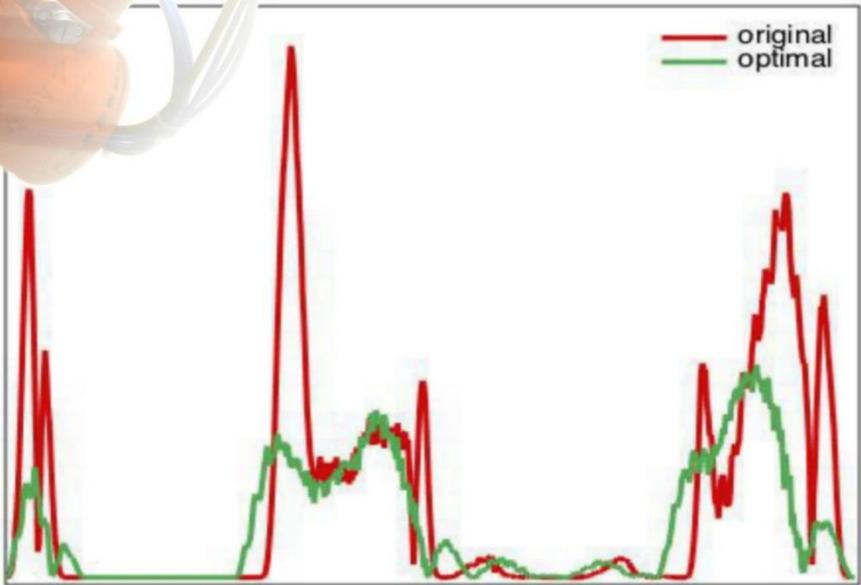
Path point	Motion type	Accuracy method	Accuracy value	Joint speed, [%]	Ang. speed, [°/s]	Ang. accel., [°/s ²]	Cart. speed, [mm/s]	Cart. accel., [mm/s ²]
0	Joint	Distance	0	100	100	100	300	300
1	Joint	Distance	0	100	100	100	300	300
2	Joint	Distance	0	100	100	100	300	300
3	Joint	Distance	0	100	100	100	300	300

Point Point Move
Point All





Energy Consumption



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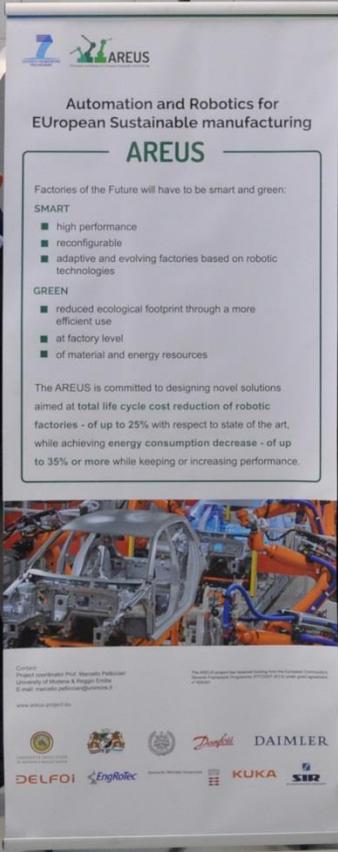


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Factories of the Future will have to be smart and green:

SMART

- high performance
- reconfigurable
- adaptive and evolving factories based on robotic technologies

GREEN

- reduced ecological footprint through a more efficient use
- at factory level
- of material and energy resources

The AREUS is committed to designing novel solutions aimed at total life cycle cost reduction of robotic factories - of up to 25% with respect to state of the art, while achieving energy consumption decrease - of up to 35% or more while keeping or increasing performance.

Co-ordinator: Prof. Marcello Pedroni, University of Modena & Reggio Emilia, E-mail: marcello.pedroni@unimore.it

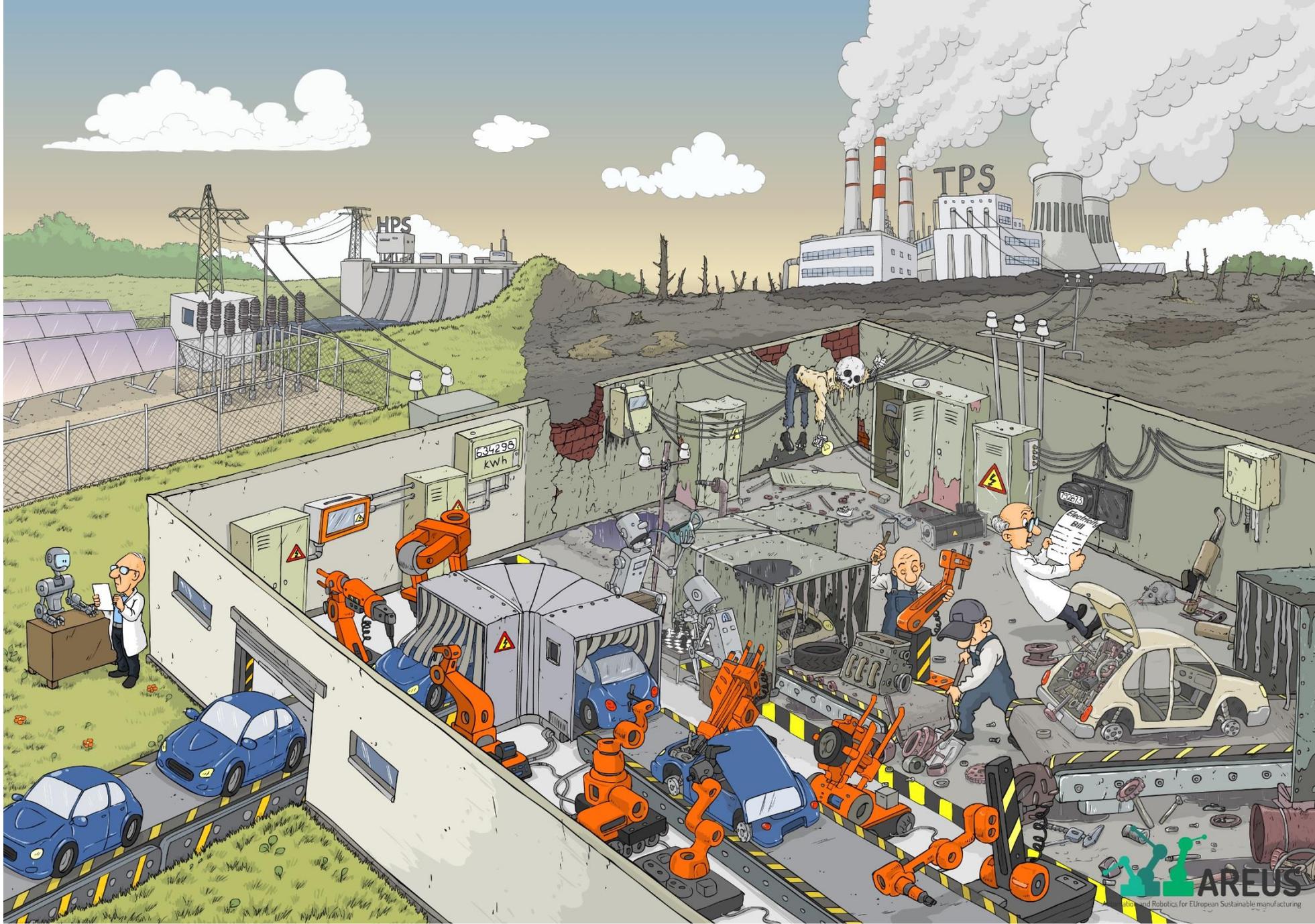
The AREUS project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101019718.



DELFOI **EngRobot** **DAIMLER** **KUKA** **SIR**







AC Current Flow

DC Current Flow

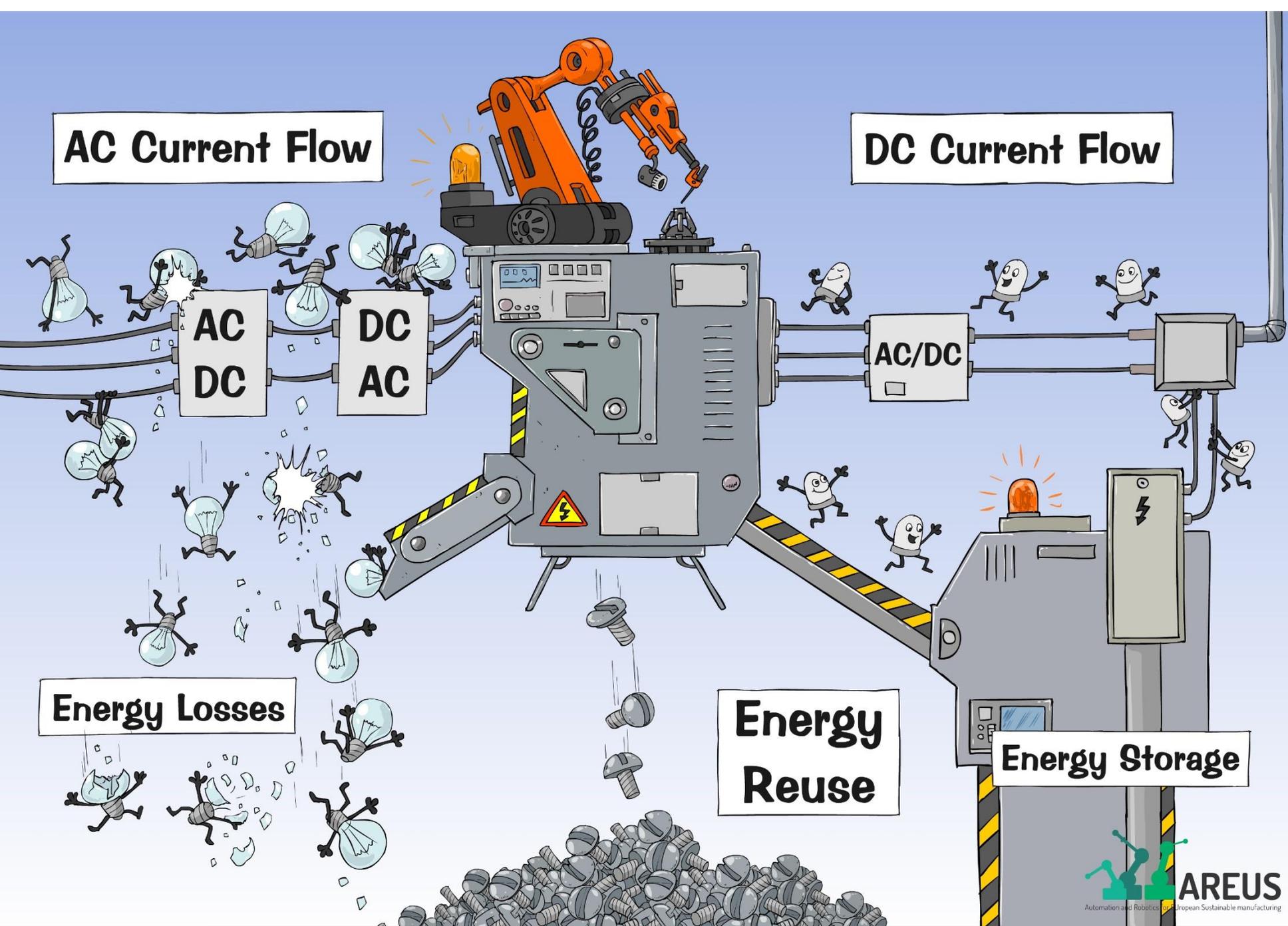
AC
DC

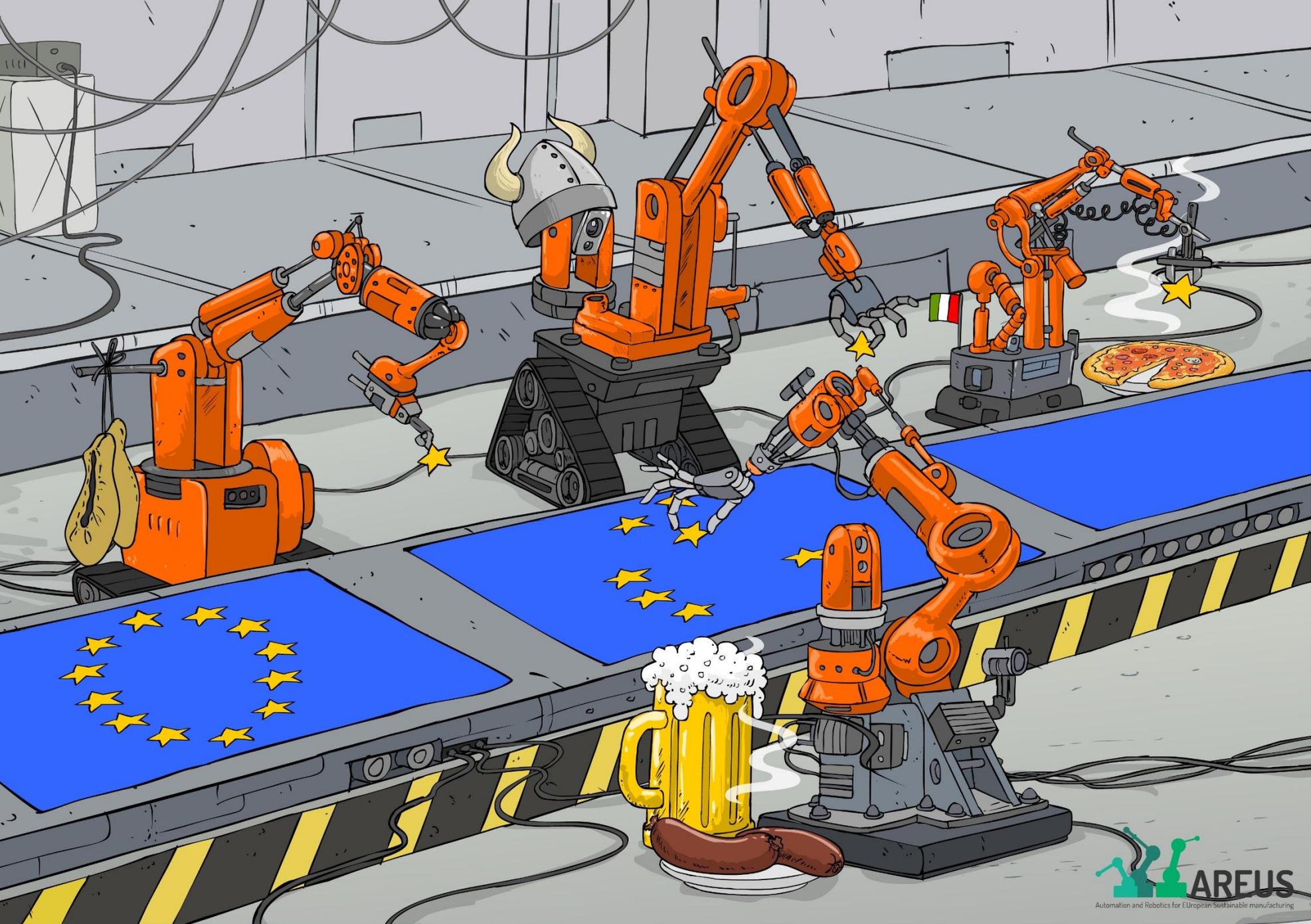
AC/DC

Energy Losses

Energy Reuse

Energy Storage









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