



FluxionSystem



Cohort 2026/27 Doha - AI



Business Impact Award
Finalist 2026



Visit us at
BI-MU Milan
13.-16.10.26
Stand D32

FluxionSystem

Not only to predict.
To understand.

AI that allows humans to use machines and materials
better than ever before.

Industrial performance is a system problem

Machine

Mixed-OEM installed base
Difficult to improve without replacement
Low native intelligence



Tools

Tooling age and calibration drift create hidden variance



Specialist

Scarce process knowledge
Experience is difficult to scale and transfer



Operator

Quality depends on local judgement and repeatable instructions



Material

Behavior changes by batch and grade
Thickness and environment matter



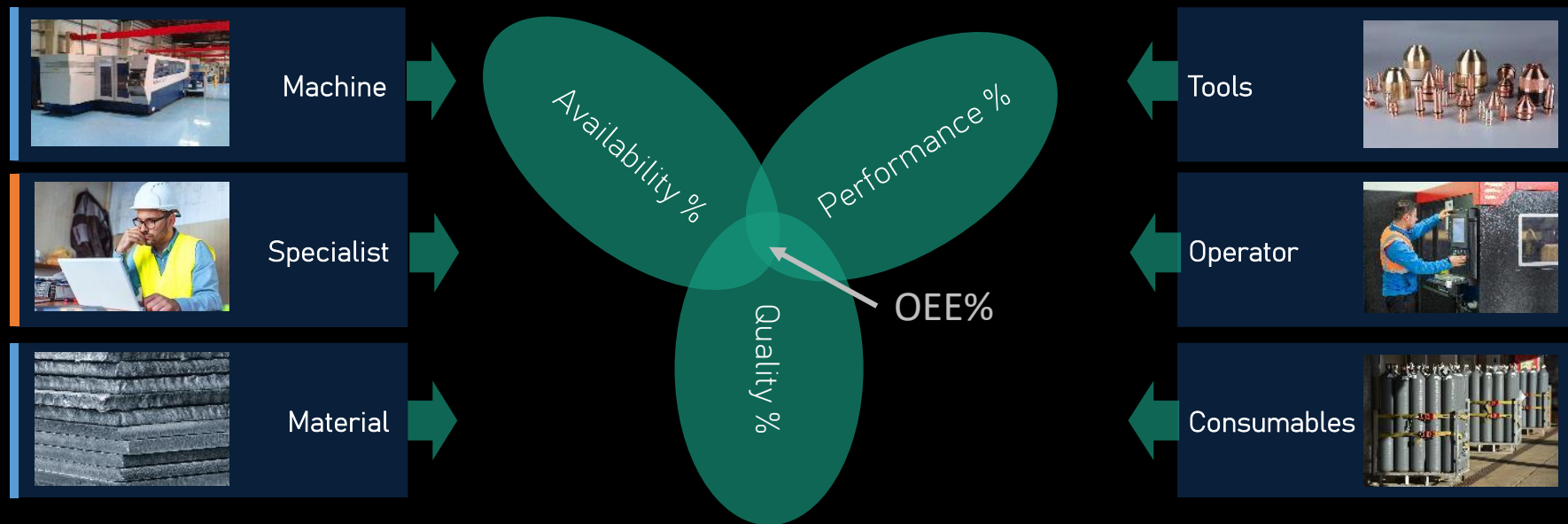
Consumables

Gas, nozzles and wear influence quality and cost



Output emerges from a complete Manufacturing Process Unit (MPU).
There are serious secular problems with MPUs: Staff/skill shortage, overaged technology.
Quality is only achieved by keeping the system stable – conflict with innovation and agility.

The target for MPUs: Overall Equipment Efficiency (OEE)



OEE describes the degree to which targets are reached → It is the core of cost and quality improvements.

OEE is mostly influenced by machine control systems and data preparation software.

Only production scheduling and material logistics are external influence factors (ERP and MES).

Improving OEE requires very good (add-on) hard- and software

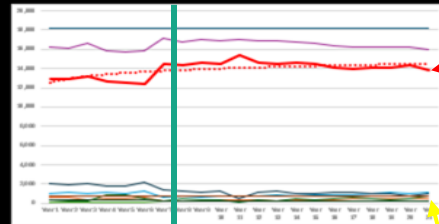
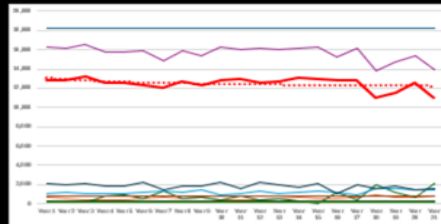
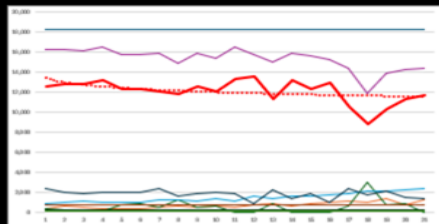
Laser cutting machine over 21-year lifetime

Normal

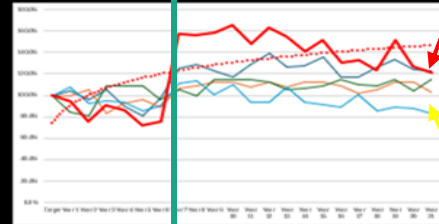
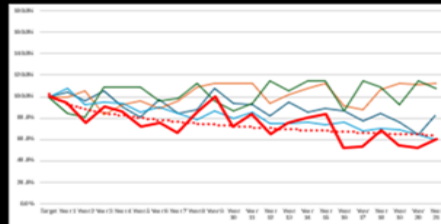
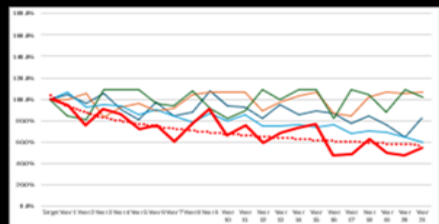
With updates

With AI

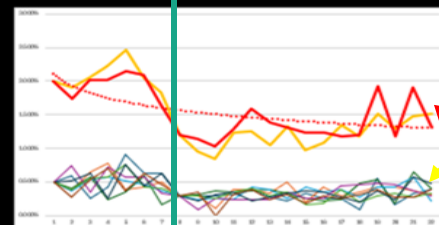
Availability



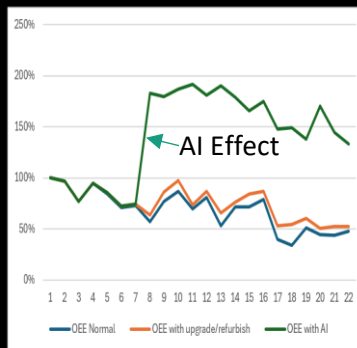
Performance



Defects



To control **OEE%**...



you have to control **26 variables** – 20 of them MPU hard and software internal.

Source: FluxionSystem laser cutting machine simulations – 21 years – Base data and AI intervention in year seven based on test data

What industrial AI must do



Industrial AI should

- start with physics
- learn from measured machine results
- state its confidence and boundaries
- Deliver measurable results

MGSD — the AI builder

MGSD = Model Guided Scaffolding

- Builds
 - (1) a physics-grounded AI model for a specific manufacturing process
 - (2) a control system to optimize the process in a specific machine

DenkWare — the deployed AI

Control systems (or add-ons) consisting of apps, edge devices and sensors

DenkWare is for anyone owning or acquiring an industrial machine. **Any machine. Any OEM. Any age.**

Always included

DenkOS Software • Operating platform, manages apps and data

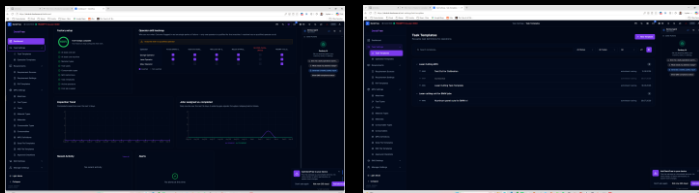
Always included

Denksy AI AI-System • Orchestration, agents, RAG, fine tuning

FREE

DenkFree Software

- Define & organize each Machine Process Unit (MPU): machine, tools, materials, operator, data
- Step-by-step instructions delivered to operators via mobile phone
- Built-in compliance (laws, regulations, quality standards)
- Skill & training management for every MPU, every time
- Free in a basic version - deep support and high data storage chargeable



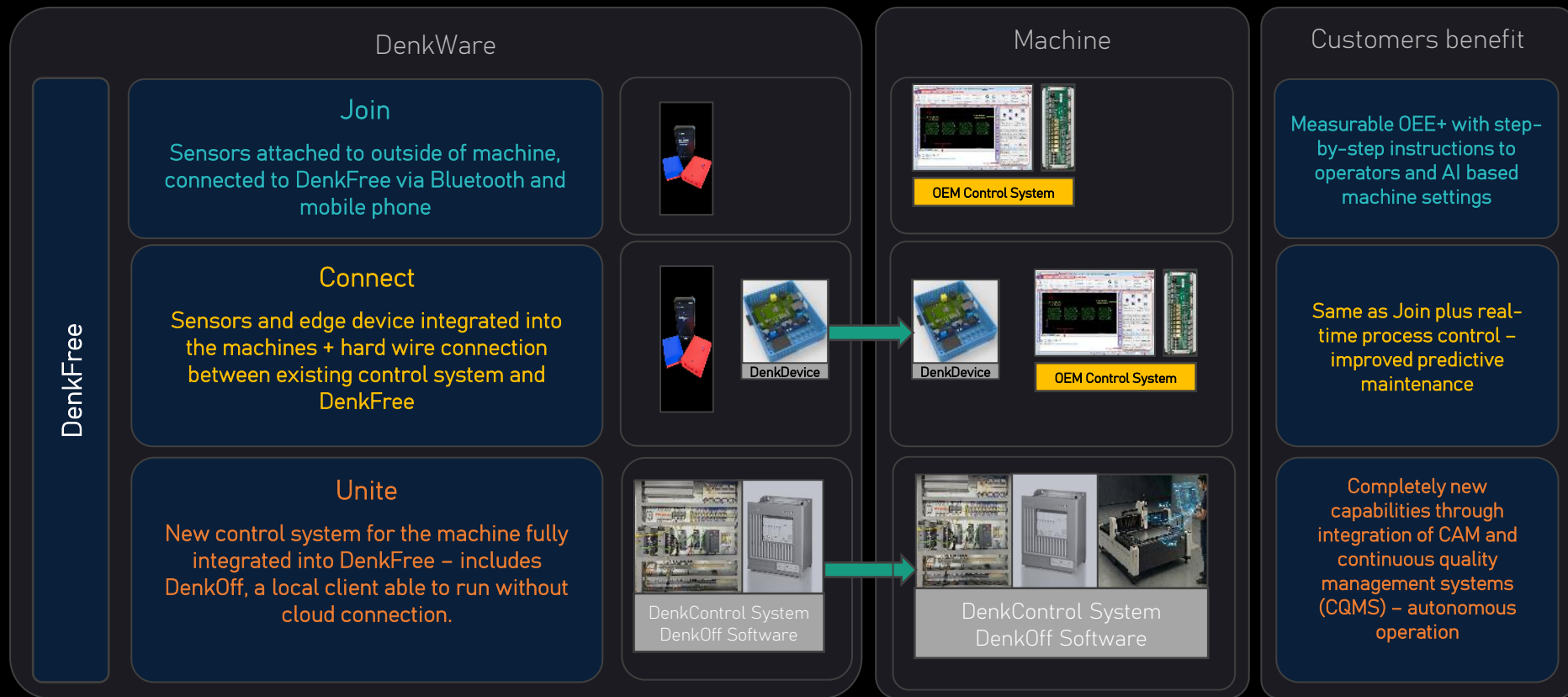
NRE + SaaS

DenkDrivers Hardware + Software + AI

- Machine connection from sensor+mobile to full control system replacement
- Physics-based AI models for settings & in-process control algorithms
- Stand-alone operation machine possible, no dependency
- Non-recurring charge from €800 to €150,000 – monthly charges from €190 to €5,000



DenkDrivers integrate machines and AI at three levels



The same machine – before and after DenkWare

What is verified in the system today, and what the funded pilot is committed to prove.

TODAY

BUILT & VERIFIED

measured today, in the repositories
and in the data

REAL CUT RECORDS

1,096

measured cuts ingested, normalised and
replayable

MEASURED ACCURACY

0.123 mm

kerf-width mean absolute error on 166 real
cuts

QUALITY MODEL

ISO 9013

classes 1–5 with an explicit confidence tier

CUT QUALITY PREDICTION

95.4% accuracy

OUTPUT INCREASE

3 – 15%

ENERGY SAVINGS

10 – 15%

TARGET

FUNDED PILOT · 2027

what the round is funded to
measure on customer machines

AVERAGE OUTPUT INCREASE

+10 %

parts per hour at the same quality class
vs. the operator's own calibrated baseline

ENERGY SAVER

–20 %

energy and CO₂ per part, quality held
same machine, material and gas

AFTER 6 MONTHS

+15–25 pp

OEE: availability × performance × quality
vs. each site's own entry measurement

HOW EACH TARGET IS PROVEN

The operator's own calibrated cut is the baseline — never a catalogue value. Operator self-agreement measured at $\kappa = 0.49$ caps any model near $p \approx 0.70$, which is why grading moves to machine vision. ISO 9013 class predicted within ± 1 class on a machine the system has not seen, scored on leakage-safe grouped splits, per machine and per material×gas cell.

FluxionSystem's team has deep manufacturing experience

MANAGEMENT BOARD

Mustafa Bahtiyar
CTO

20 yrs aerospace design
experience ("Kaan" airplane)
Former Head of Aerostructures,
Lilium

Albert Klein
CEO / CFO

30+ yrs manufacturing
executive experience
Former CFO, FIT Additive
Manufacturing Group

Yurii Sukhonos
CMO

10+ yrs in international trade
Former Chief Economist, National
Bank Ukraine

Martin Wassmann
CIO

30+ yrs in software projects
Former Director of Ops, Netfabb /
Autodesk

Dr. Hakan Yavas
CSO

40+ intl. patents and scientific
publications
Former Head of Research &
Technology Center, TAI

Accomplished AI users and coders with high tech manufacturing experience

ADVISORY BOARD

Ambassador Stefan Füle

EU Commissioner for Enlargement
(Feb 2010 – Oct 2014)
Co-founder, U&C UAS s.r.o.

Jacques Henry-Bezy

Managing Director, Bespoke & Beyond
16 years at Pernod Ricard (Jameson)
International brand & marketing

Prof. Dr. Dr.hc.mult. Wolfgang Wahlster

Founder DFKI
Co-originator of "Industry 4.0" (2010)

Deep insights into modern defense business and policy, AI science and global marketing

FluxionSystem is embedded in the science and industry community



Association of German
Security and Defense
Industry, Berlin



European High Performance
Computing Joint Undertaking,
Brussels



Industrial Digital
Twin Association,
Frankfurt



Technologie-Initiative
SmartFactory KL,
Kaiserslautern



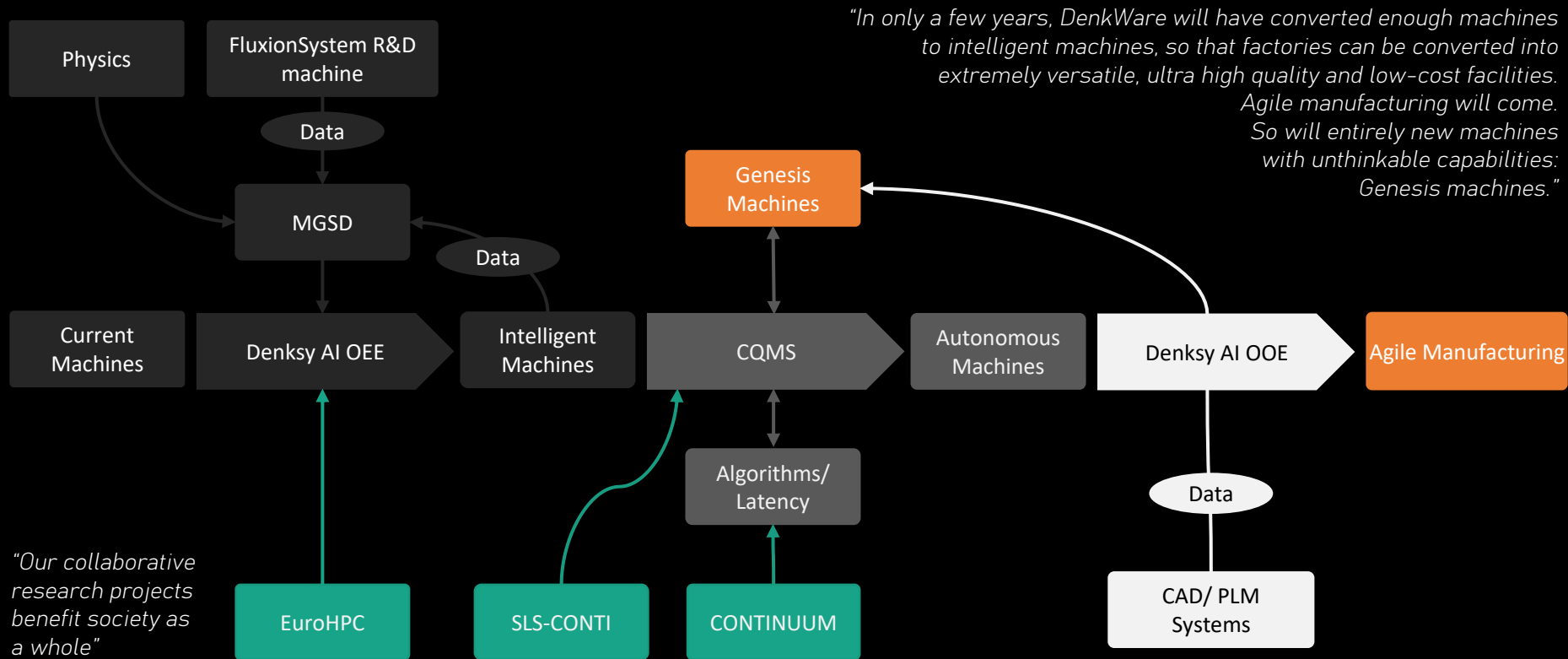
Gaia-X European
Association for Data
and Cloud AISBL,
Brussels



Deutsches Forschungs-
zentrum für Künstliche
Intelligenz, Kaiserslautern



Friedrich-Alexander-Universität.
Lehrstuhl für Kunststofftechnik,
Erlangen-Nürnberg





FluxionSystem

Questions?

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FluxionSystem – Investor presentation Sep 2026



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To understand.

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materials better than ever before.