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DEVELOPING SKILLS FOR HIGH-QUALITY JOBS IN EUROPE

THE FUTURE OF INDUSTRIAL AUTOMATION

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INDUSTRIAL SECTOR THE LANDSCAPE



UNPLANNED DOWNTIME

\$22K - \$50K

Average cost per min
of downtime

800 HOURS

Annual estimated time for
average manufacturers

\$1.5 TRILLION

Annual cost for Fortune 500 companies,
11% of revenue



SKILLS GAP AND LABOR SHORTAGE

25.3%

Share of manufacturing workers
55 years old and older

15%

Skills mismatch between workers
and employer expectations

3.8 MILLION

New manufacturing employees
estimated to be needed by 2033



OPERATIONAL EFFICIENCY

\$184 MILLION

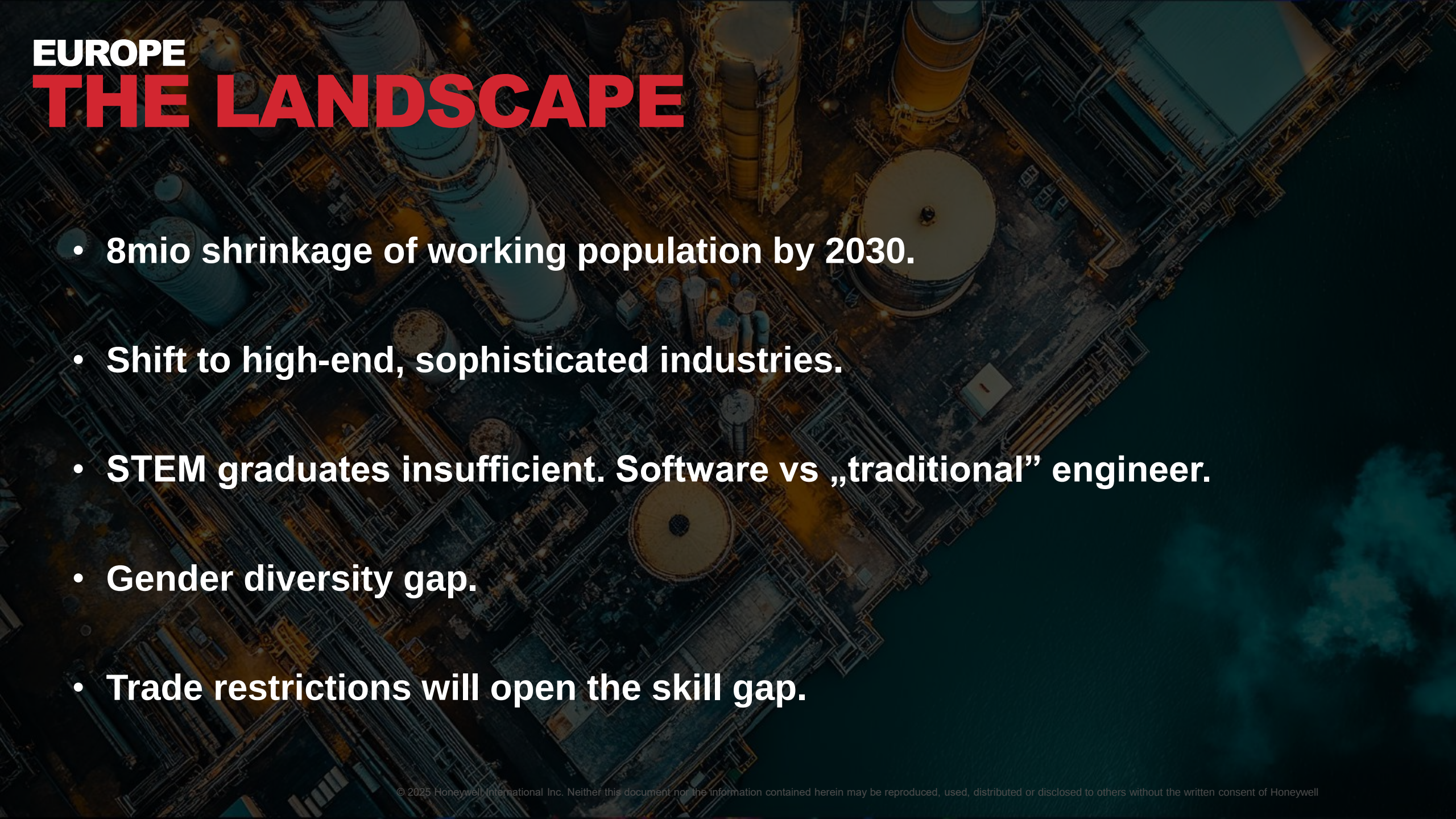
Average annual cost of
supply chain disruptions

INCREASE

In safety and security risks for
employees and assets

DECREASE

In quality, production time,
compliance and morale



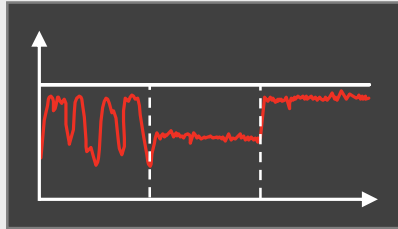
EUROPE **THE LANDSCAPE**

- 8mio shrinkage of working population by 2030.
- Shift to high-end, sophisticated industries.
- STEM graduates insufficient. Software vs „traditional” engineer.
- Gender diversity gap.
- Trade restrictions will open the skill gap.

AUTOMATION TO AUTONOMY

THE DIFFERENCE

INDUSTRIAL AUTONOMOUS SOLUTIONS



CONTROL & OPTIMIZE

Tune Control Loops Implement Adv Control



INTELLIGENT ASSETS

Condition Monitoring & Video-based Sensing



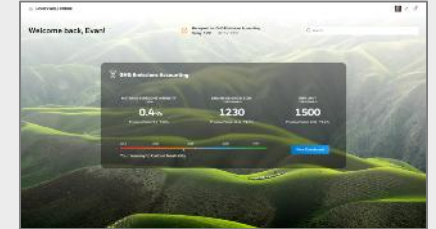
EXPERT PEOPLE

Digital Workforce Excellence, Field & Board Collaboration



INTEGRATED CENTRAL OPERATION

Remote Operations



REMOTE ASSET MONITORING

Emissions Monitoring, Remediation, Reporting

ADVANCING CONTROL TECHNOLOGY

Sustain Best Performance For Longer Durations

AI & Digital Twin

Improved Fault Detection

New Sensing / Machine Learning

Faster Time To Expertise

Generative AI

Flawless Operations

Causal Inference / Co-Pilots

Faster Identification / Better Prediction

Video Analytics

SHIFT FROM EXPERTISE-BASED DECISIONS TO CLOSED-LOOP AUTONOMOUS OPERATIONS COMBINING AI, DIGITAL TWINS, AND AUTOMATION

INDUSTRIAL AUTONOMY THE FUTURE

ASSETS WORK HARDER

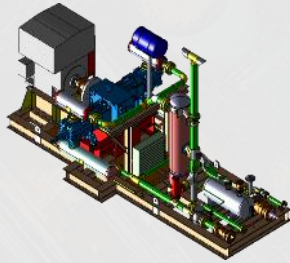
CONTROL & OPTIMIZE



Bridge **AI and controls** to safely maximize & sustain output and profitability

Automated processes with sustained operation at peak performance

INTELLIGENT ASSETS



AI and controls combine to eliminate unplanned downtime

Predictive asset performance and reliability

PEOPLE WORK SMARTER

EXPERT PEOPLE



Zero harm operations with maximized human potential with **Digital Co-pilots (Gen AI)**

Every worker enabled to perform at an elite level

PROCESSES WORK MORE EFFICIENTLY

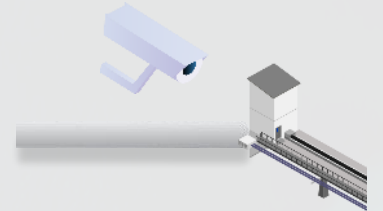
INTEGRATED CENTRAL OPERATION



Digital-first way of working to augment workers and processes with **practical AI**

Monitor, Control, and Service Remotely

REMOTE ASSET MONITORING



Autonomous control of avoidable carbon emissions

Monitor, Reduce, Report Carbon Emissions

**THANK
YOU**

Honeywell