# Driving Intelligence: AI-Powered Auditing for the Automotive Future

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thyssenkrupp Springs & Stabilizers Hungary Ltd. Debrecen
8. October 2025

QualityAI x thyssenkrupp

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# ABOUT ME

## István, HARASZTI

- **Head of Quality – thyssenkrupp Springs and Stabilizers Hungary Kft.**

  **5 years, 13 years of automotive experience**
- **Professional background – multinational companies:**

  **thyssenkrupp, Schaeffler, General Electric**
- **Certified VDA 6.3 and IATF 16949 Internal Auditor**
- **Six Sigma Black Belt Trainer by PACCAR – DAF**

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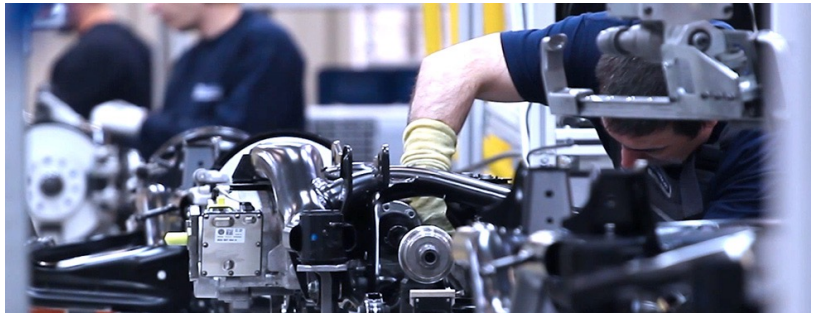
# ABOUT THE COMPANY



## thyssenkrupp Springs and Stabilizers Hungary Kft.

- **Automotive supplier company, Debrecen**
- **Product: stabilizer bar, spring**
- **350 employees, €50M annual revenue, 2.6M products**
- **Main customers: VW Group, JLR, BMW, Daimler, Stellantis, VOLVO**

Audi

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# Introduction – Why Now Is the Right Time

- OEM expectations are tightening (IATF 16949, VDA 6.3)
- Production volume is increasing, error tolerance is decreasing to a minimum
- Challenges:
  - Manual audits are time-consuming
  - Multi-shift complexity
  - Late detection of errors
  - Difficulties in meeting audit requirements

**AUDITS SHOULD BECOME PREDICTIVE AND VALUE-CREATING WITH AI SUPPORT**

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# BEFORE AI – PAIN POINTS

PAPER AND EXCEL AUDITS → HIGH ADMINISTRATIVE BURDEN

FOLLOW-UP ACTIONS DELAYED OR NEVER EXECUTED

IMPOSSIBLE TO IDENTIFY TRENDS AND CORRELATIONS BETWEEN SHIFTS

REACTIVE QUALITY MANAGEMENT: ISSUES DISCOVERED ONLY AFTER SCRAP OR CUSTOMER COMPLAINTS

**REAL EXAMPLE: RUNNING THE TIRE INSPECTION SENSOR IN REDUCED MODE**

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# THE SHIFT – INTELLIGENT AUDITING

- Digitalization of audit processes → data collection via tablets / mobile devices
- Root Cause: Machine Learning → uncovering patterns and hidden correlations for maintenance / engineering
- Real-time dashboard → immediate visibility for managers and engineers
- Automatic action assignment, status tracking → no lost tasks
- Cross-line benchmarking, fast root cause analysis support during daily meetings

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# TANGIBLE RESULTS

25–40% time savings in audit preparation and reporting

30%+ improvement in action closure rate

Earlier error detection
→ reduced scrap rate and customer complaints

Auditors' time freed up
→ less administration
more value-adding tasks

Efficiency: LPA responsible focuses on data analysis with AI instead of "just performing audits"

Best practice: cross-plant experience sharing, factory visits, and good practice exchange

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# WHAT DOES THIS MEAN FOR THE FUTURE?

- AI becomes part of the quality culture at the Debrecen plant
- Data is integrated, not siloed → transparency across shifts
- Audit → from compliance to a Continuous Improvement driver
- Standardized best practices → scalable to other thyssenkrupp sites
- Stronger compliance with strict OEM and customer requirements
- Opportunity to involve the supplier network in AI-based auditing

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# LESSONS LEARNED AND NEXT STEPS

The shift required a cultural mindset change as well, not only technology

AI → Predictive Quality

New audit types: process audit, product audit

We are better prepared for tightening OEM requirements and internal KPIs

**NEXT STEP: SUPPLIER QUALITY MANAGEMENT WITH AI SUPPORT, PRODUCT AUDIT, CROSS-SITE ROLLOUT**

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# THE FUTURE OF QUALITY: INTELLIGENT AUDIT

AI-BASED AUDITING IN DEBRECEN HAS CREATED A NEW QUALITY STANDARD

NOT JUST EFFICIENCY, BUT PROACTIVE ERROR PREVENTION AND CONTINUOUS IMPROVEMENT

THIS APPROACH CONTRIBUTES TO THYSSENKRUPP'S AND THE HUNGARIAN AUTOMOTIVE INDUSTRY'S COMPETITIVENESS

IN THE FUTURE, AUDITING WILL NO LONGER BE PAPERWORK, BUT INTELLIGENT VALUE CREATION

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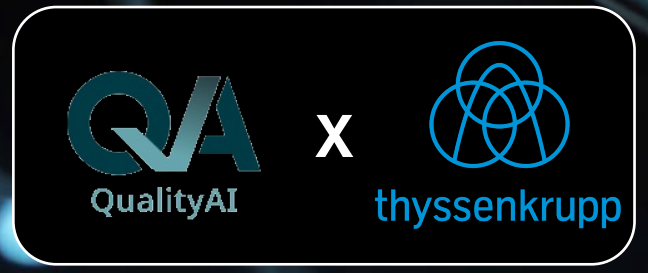
# THANK YOU

## FOR YOUR ATTENTION!

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