

Digitalisierung von Werkzeughaltern in Drehmaschinen

- Herausforderungen
- Technologie
- Beispiele

Welcome to Industrial Internet of Things (IIoT)

What is the reason for monitoring of gear production units in Turning machines and as well in dedicted gear prodocation machines?

- Process reliability up
- Cost savings
- Avoid rejects
- Predictability of maintenance events
- Relief of machine operators
- Transparency of usage data

When to have monitoring systems in addition to the regular machine monitoring?

- ✓ Usage of the devices only from time to time
- ✓ Usage of the devices in different machines
- ✓ Prevention of complaints
- ✓ Planning of maintenance events at the supplier of devices
- ✓ Transparency of usage data
- ✓ To be safe for warranty statements

Welcome to Industrial Internet of Things (IIoT)

Products by mimatic:



NFC



reader



B 2.0



smart Gateway



pro

No power supply
No cabling
No changes



cloud

Open system to all manufacturers of machines or devices

eltimon

 **eltimon®**

INDUSTRIE 4.0 IIoT

- In the market since 2016
- Global applications: Europe , USA , China
- No misfunction since 7 years
- Extended **warranty to 5 years**



eltimon

Challenges for device monitoring (inside of tooling machines)



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reality: life time 5 years +

- ✓ **Patented power management system**
- ✓ **Patented casing for electronic**
 - **Powerful computer**
 - **Analog to digital converter**
 - **Data storage**
 - **Various sensors**
 - **powerful Bluetooth transmitter + receiver**

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Target: ZERO DOWN TIME

➤ Preventive Maintenance

Data Cockpit

Working hours



Temperature



Revolutions



Load cycles



Vibrations



new
eltimon pro

eltimon data on:

- Machine Screen and
- Cloud System

eltimon pro smart Gateway:

- ✓ real plug + play

no manual action required
for min. 5 years

eltimon®

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Internet

eltimon® Cloud

Enduser live tool monitoring:

- ✓ Status
- ✓ Availability
- ✓ Performance
- ✓ Predictive maintenance
- ✓ Service logbook
- ✓ Technical information

first system of its kind in the market

eltimon pro smart GATEWAY

- to be located close to the tooling machine
- To have power supply and internet connection

mimatic®
Tool Systems

Eltimon pro life tool

- ✓ To be working
- ✓ To be inside the tooling machine

eltimon reader

- ✓ access to the life tool any time, any where
- ✓ immediate status information available



eltimon®

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eltimon® Cloud

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Data-structure + Rights for access

| | | | |
|-------|---|---|--------------------------------------|
| level | 1 | Partner mimatic Partner | <i>Partner admin</i> |
| level | 2 | Customer Conti Customer ... | <i>Customer – admin - user</i> |
| level | 3 | Department China 1 Department ... | <i>Department – admin - user</i> |
| level | 4 | Machine Mazak 1 Machine ... | |
| level | 5 | Mimatic driven tool 90° no 1 Wendel driven tool | |

eltimon : EVOLUTION

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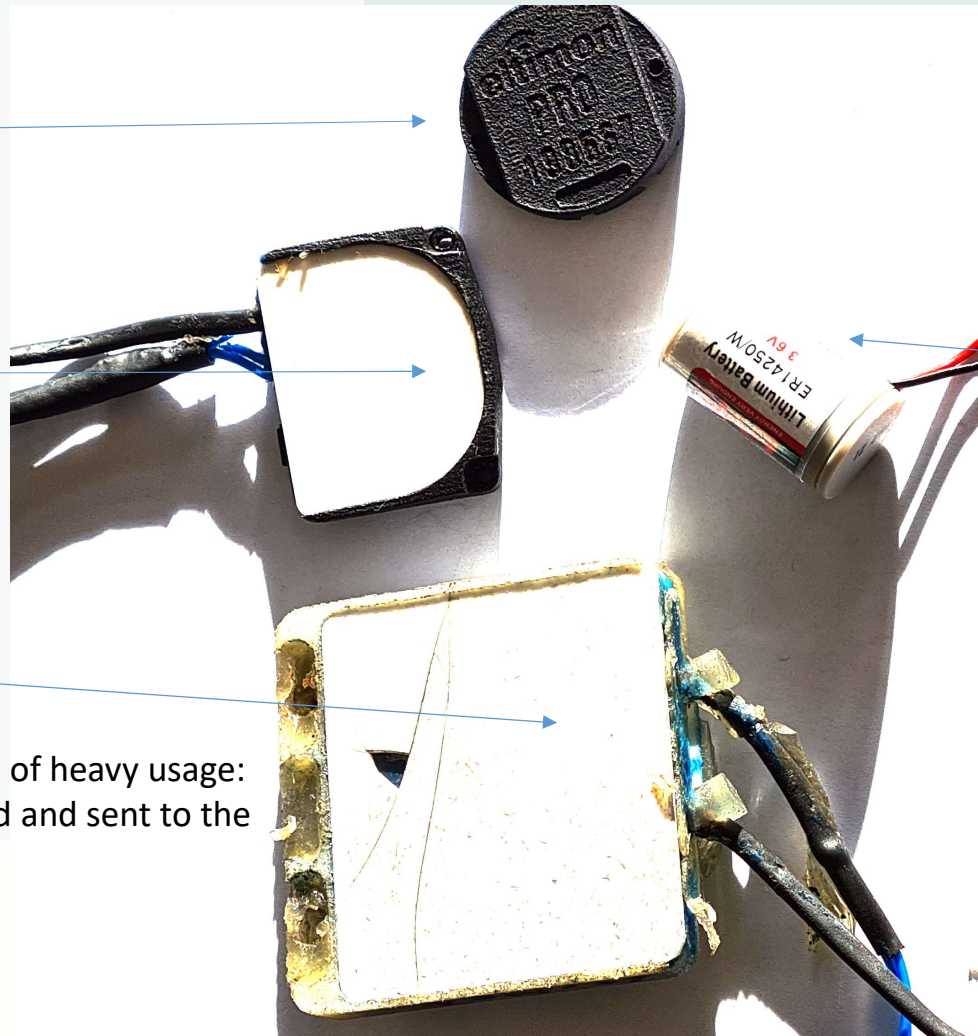
eltimon pro

eltimon B2.0

eltimon N1.0

eltimon NFC after 3 years of heavy usage:
All latest data are capured and sent to the
eltimon cloud

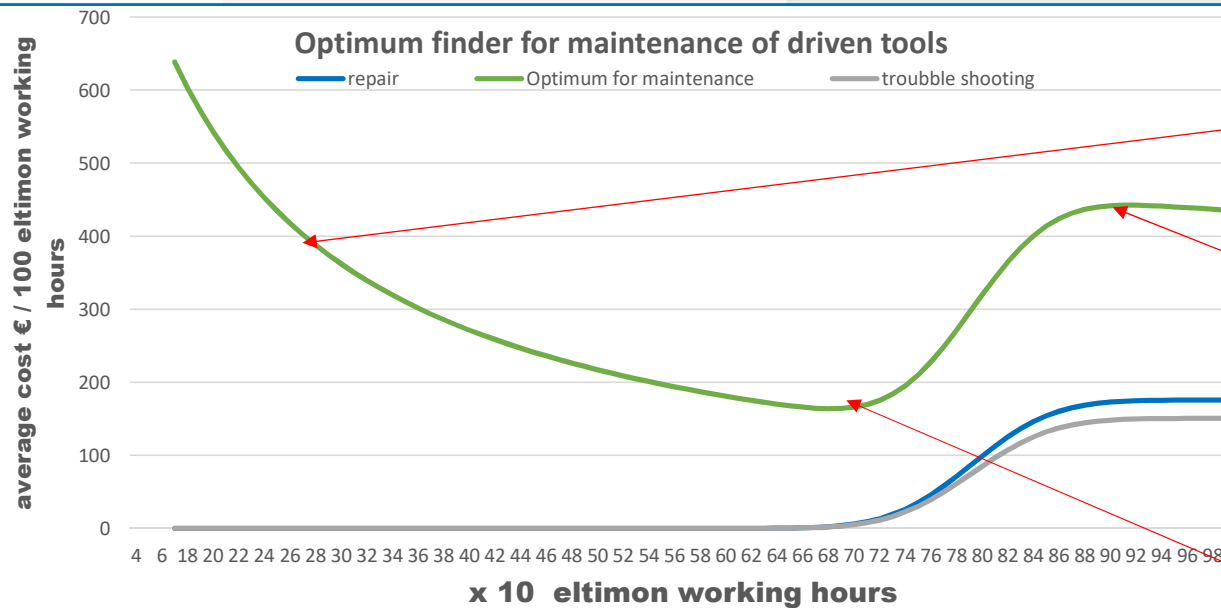
eltimon battery



Customer benefit calculation



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cost for too early maintenance



Average cost if operating until failure



Average cost for preventive maintenance and eltimon

eltimon retrofit solution

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eltimon retrofit for an used non mimatic life tool



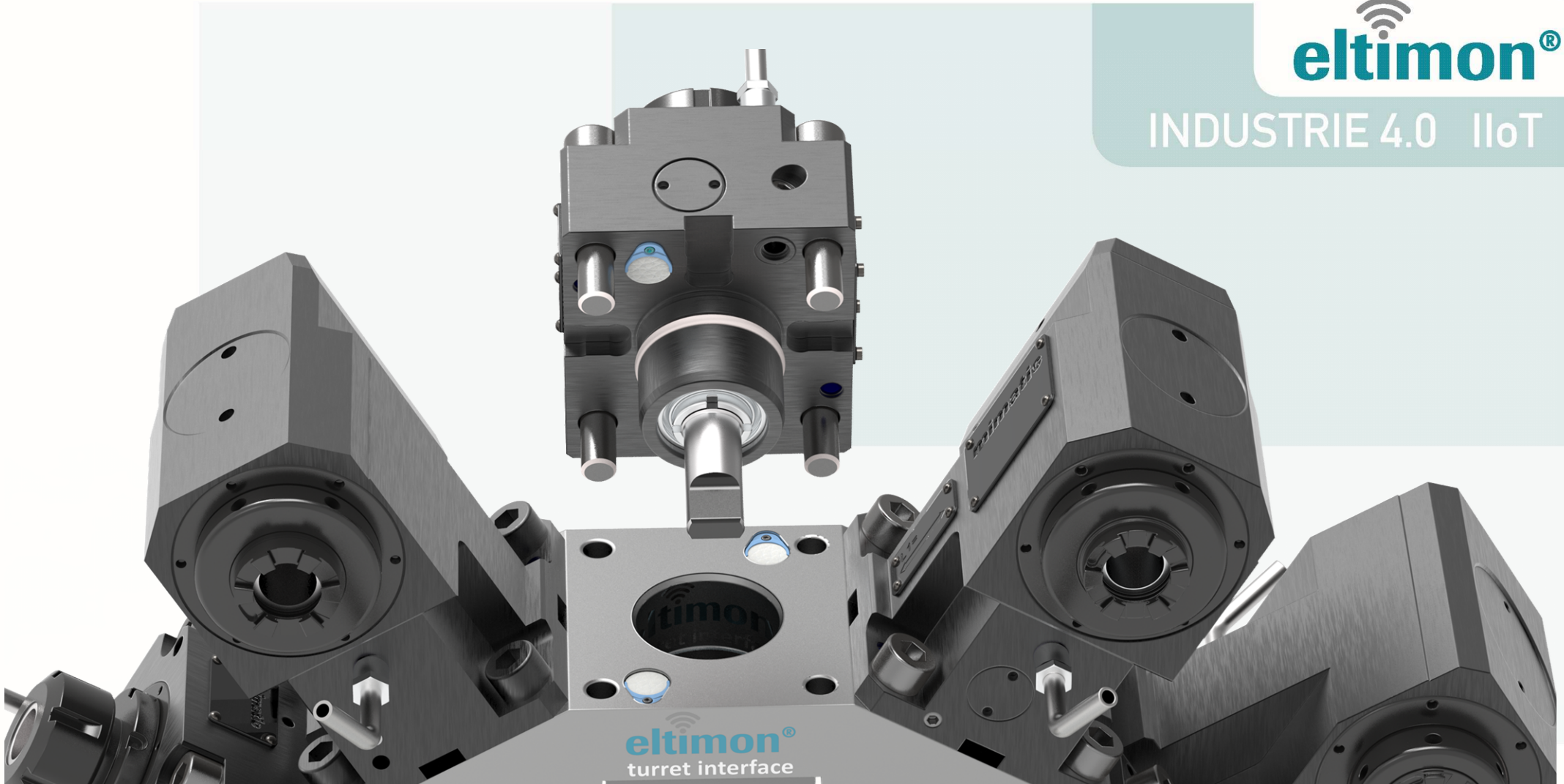
eltimon retrofit after one year operation



eltimon retrofit with battery and sensor

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Thank you very much for your attention !

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