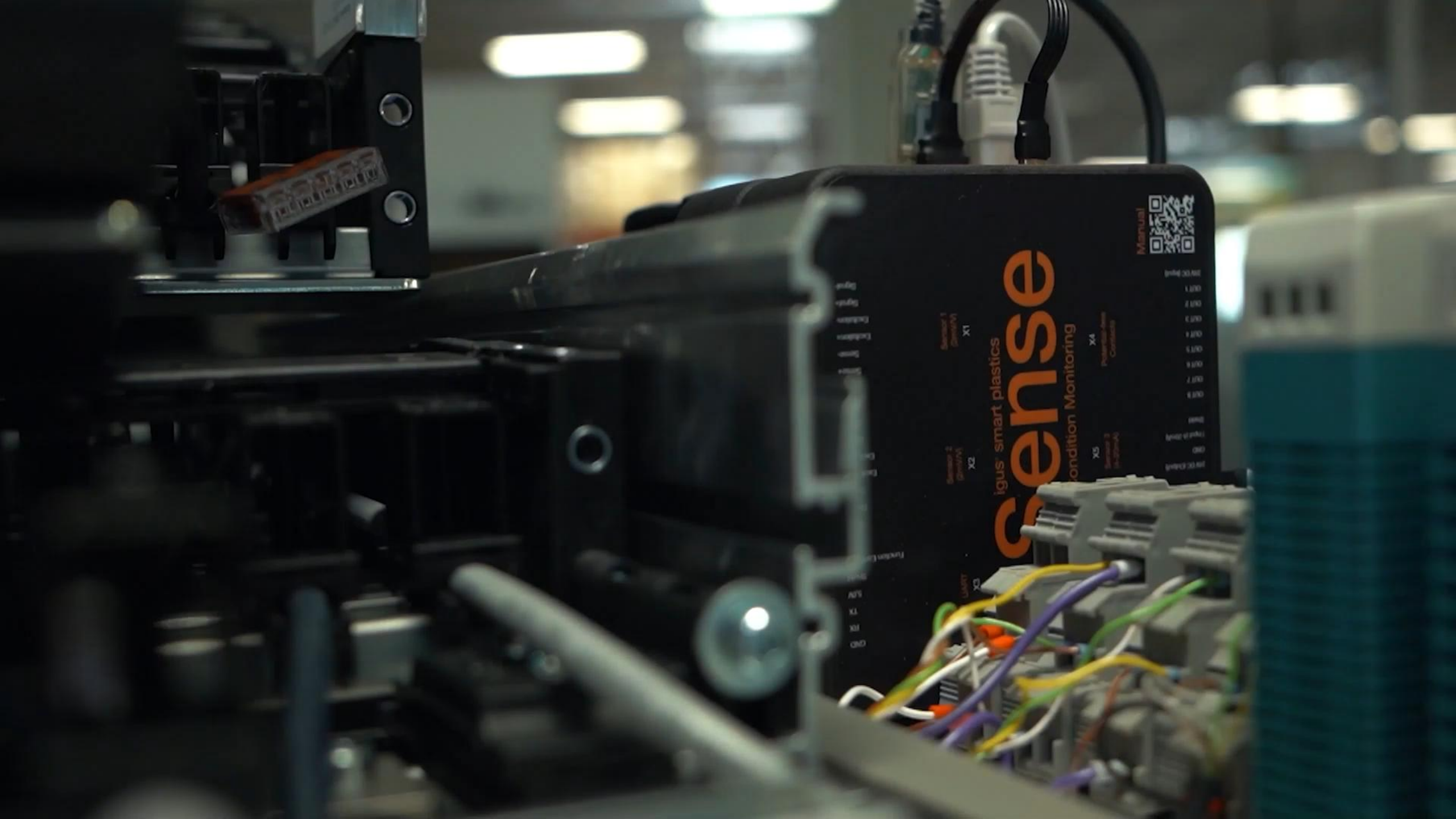
superwise®

... igus® smart service

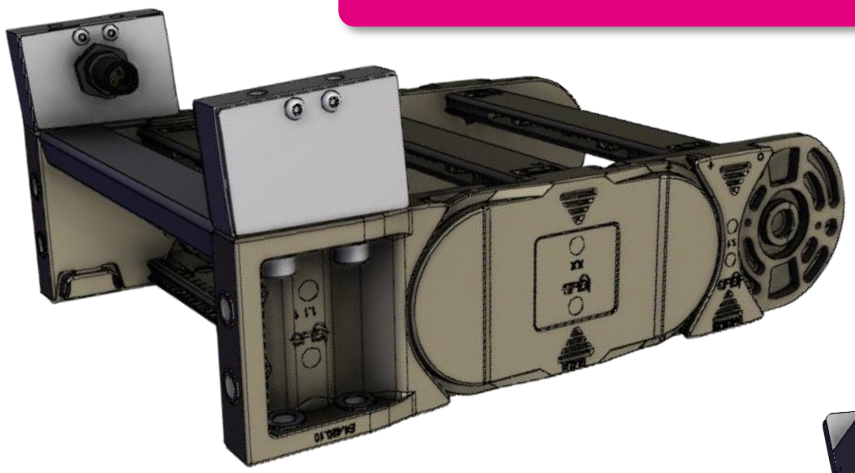
Leveraging smart diagnostics and predictive analytics to streamline maintenance and ensure operational continuity

travel:	330 m	e-chain®:	5050RHD.32.350
speed:	0,75 m/s	chainflex®:	CFCRANE 1x25, CF9,CFLG
acceleration:	0,4 m/s²	guide trough:	Galv.

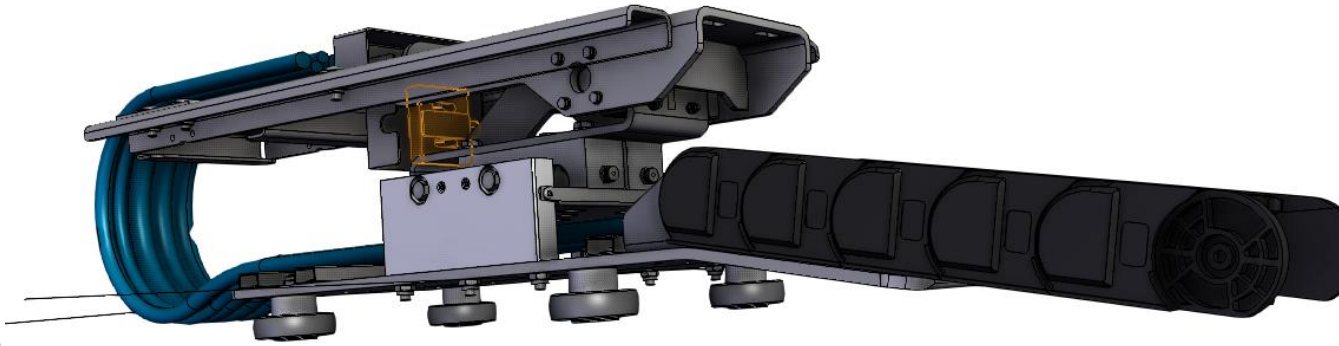

noen


igus smart plastics
sense
Condition Monitoring
Manual

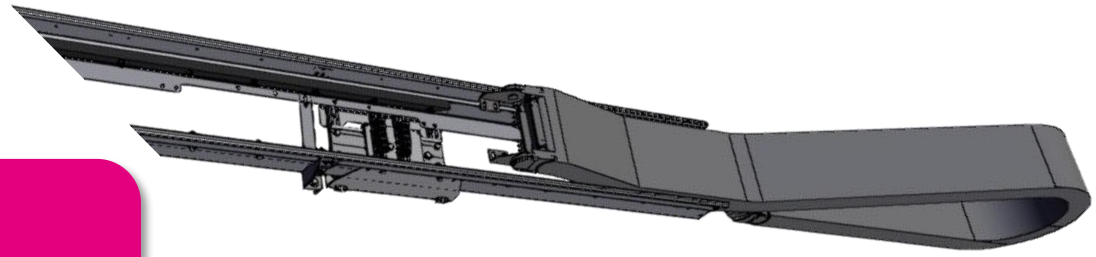
Technology for stress free Bulkhandling



Force monitoring prevents failure costs



Superwise extends livetime, early retrofit planning



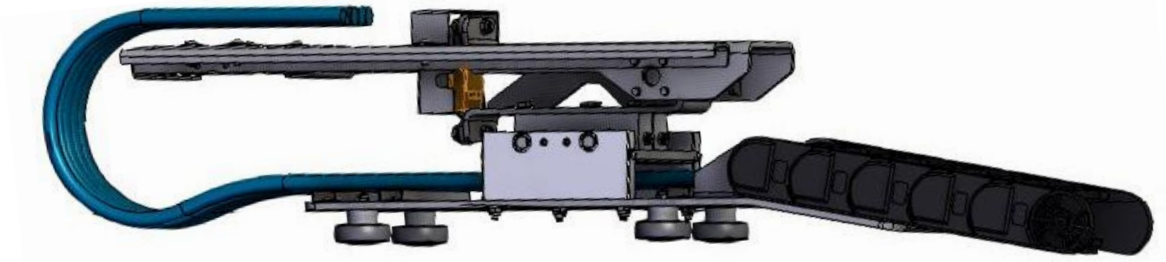
i.Sense Module:
collects, decides,
informs, controls

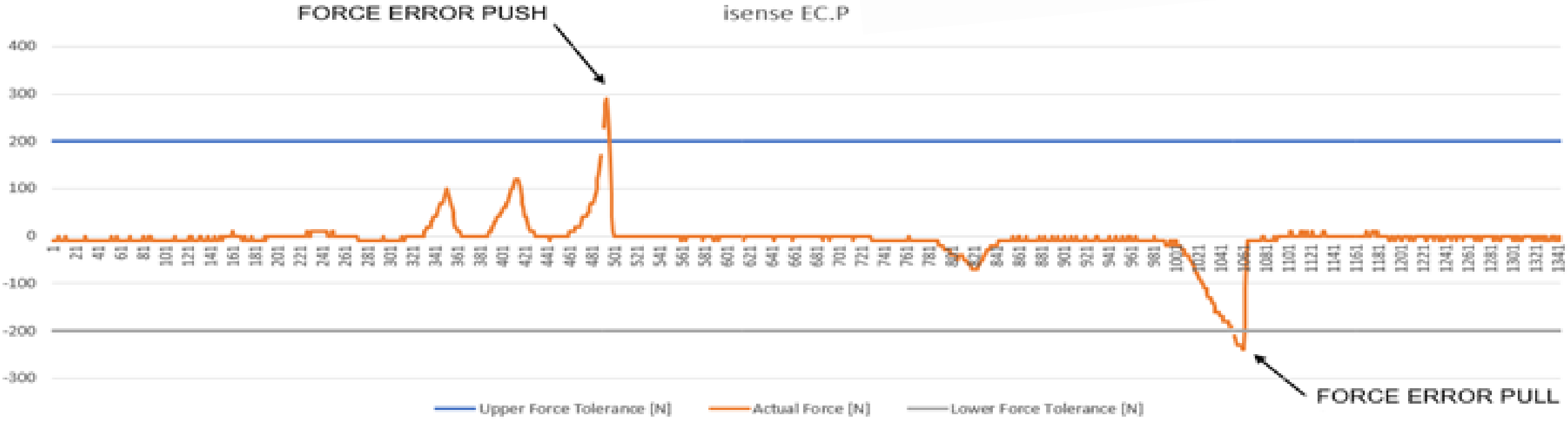
Break detection Saves life

Cable tension monitoring extends cables lifetime

igus®

EC.P: Push- / Pullforce monitoring: protects echain system in case of blockings or misalignments
+++ No unplanned downtime +++ uninterrupted production +++ stress-free +++ repair-preventive +++





- EC.P: measurement of the push / pull forces at the moving end of the chain, with a load cell and evaluation unit, during operation. Triggers N.C. contact by passing force limits

Click here for more details

EC.B: detects a chain breakage as its initial stage by measuring absolute e-chain length with a rope +++ safe automatic operation +++ detects unilateral breakage +++ prevents total damage +++

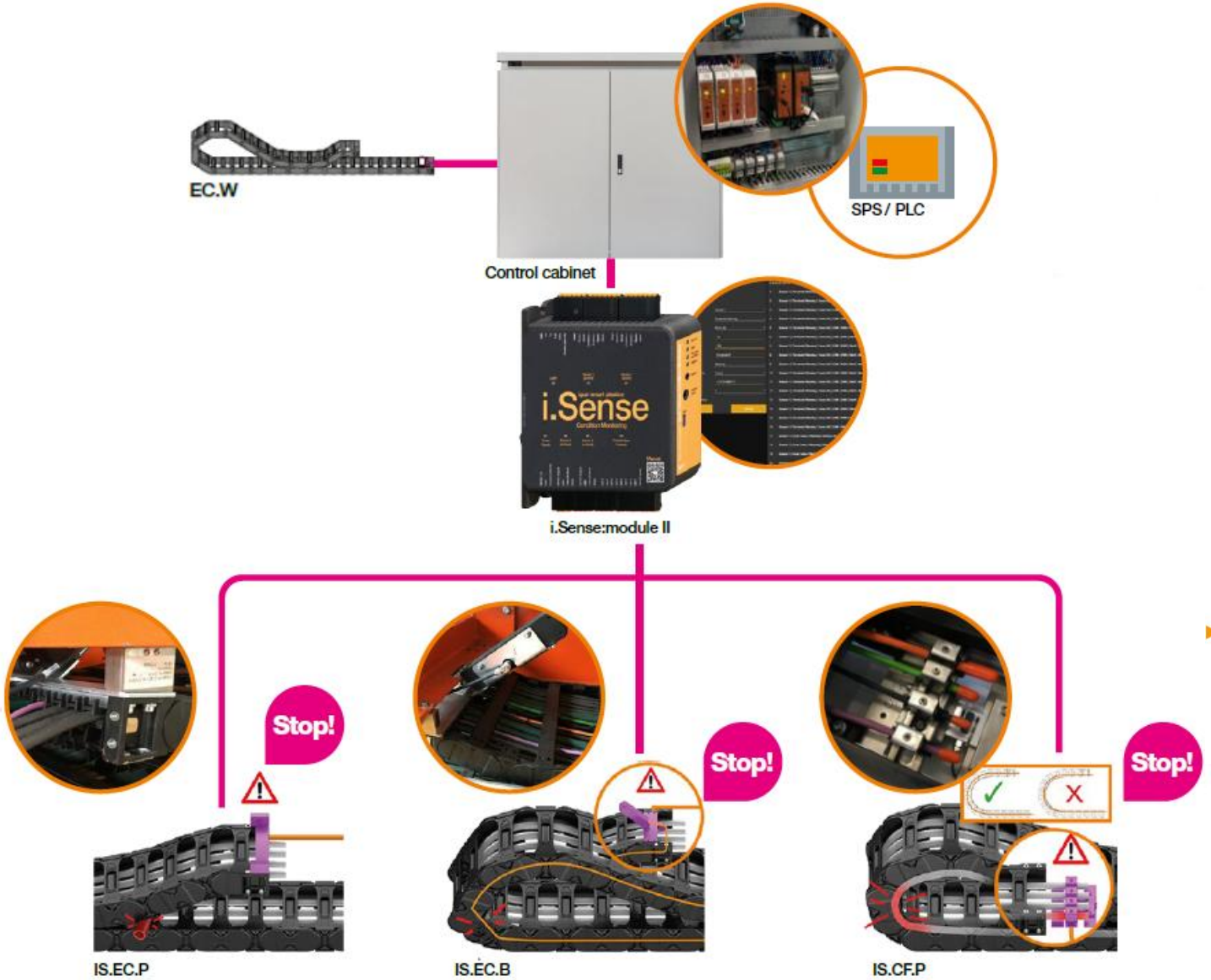
Click here for more details

CF.P: detects cable stress, caused by abrasion -
+++ prevents fire +++ protect employees life +++ no electric shock +++

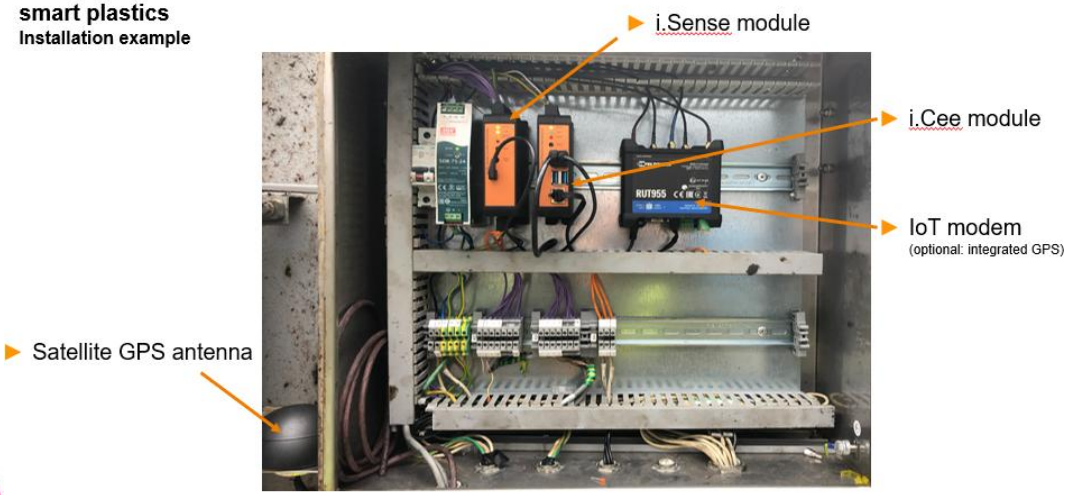
Click here for more details

i.Sense

Condition Monitoring

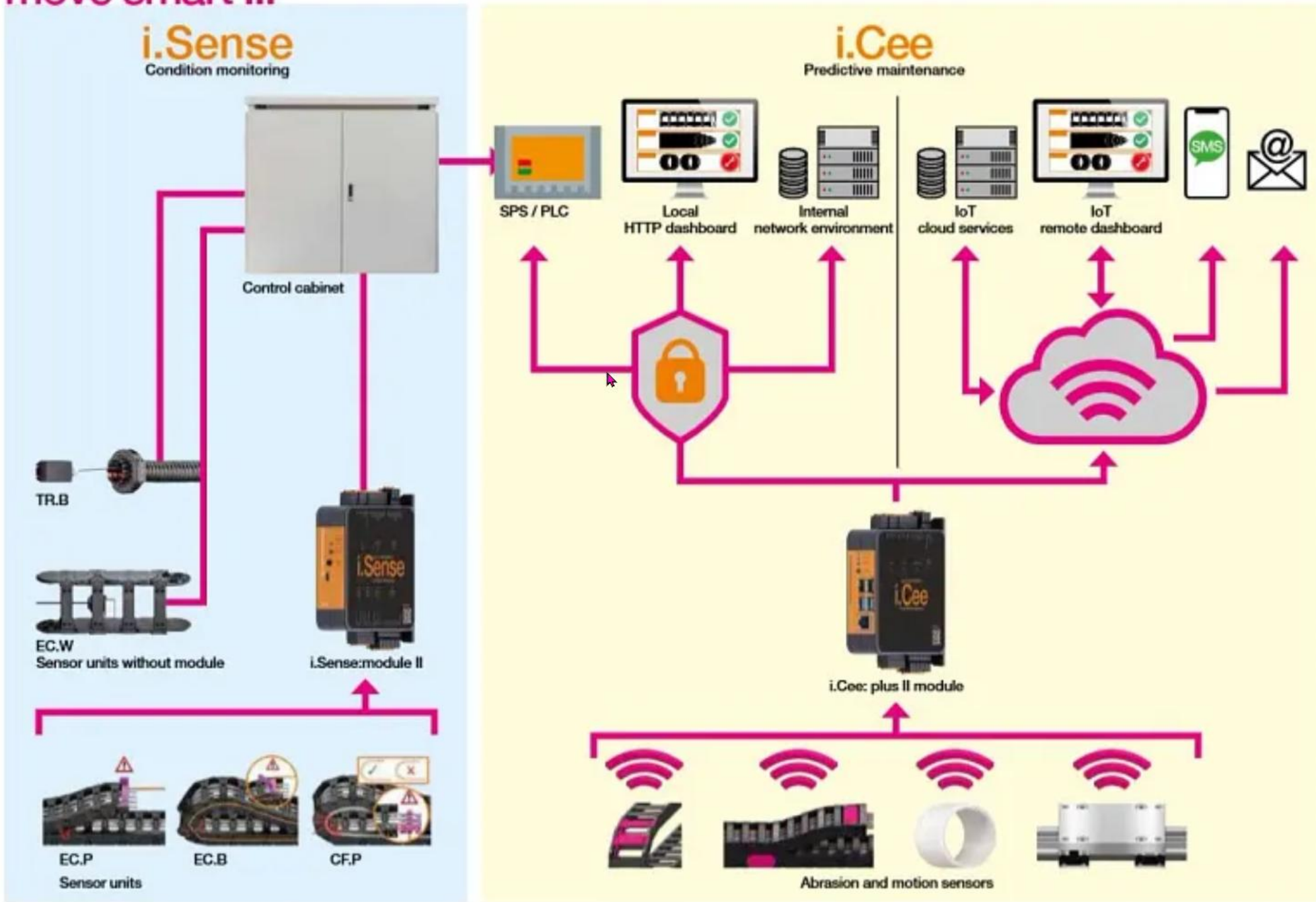


smart plastics
Installation example



- DIN Rail Modules
- 24V DC standard voltage
- Rugged module design
- Prooven in several thousand crane applications
- Connected to PLC by N.C. contact – no BUS needed

move smart ...


i.Sense
Condition monitoring
Control cabinet
TR.B
EC.W
Sensor units without module
i.Sense:module II
EC.P
EC.B
CF.P
Sensor units
i.Cee
Predictive maintenance
SPS / PLC
Local
HTTP dashboard
Internal
network environment
IoT
cloud services
IoT
remote dashboard
SMS
i.Cee: plus II module
Abrasion and motion sensors

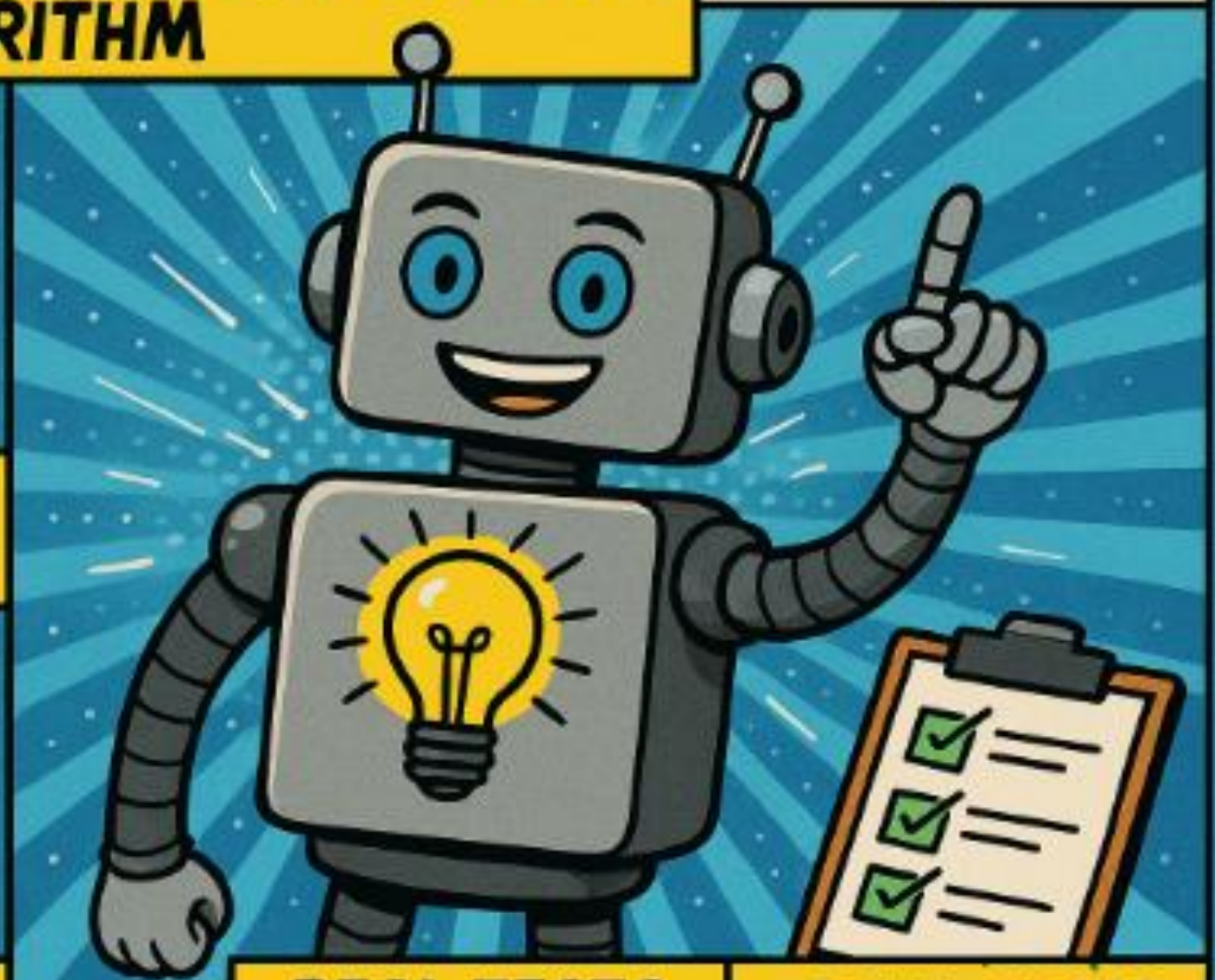

moving energy made easy

THE SUPERWISE ALGORITHM

smart plastics

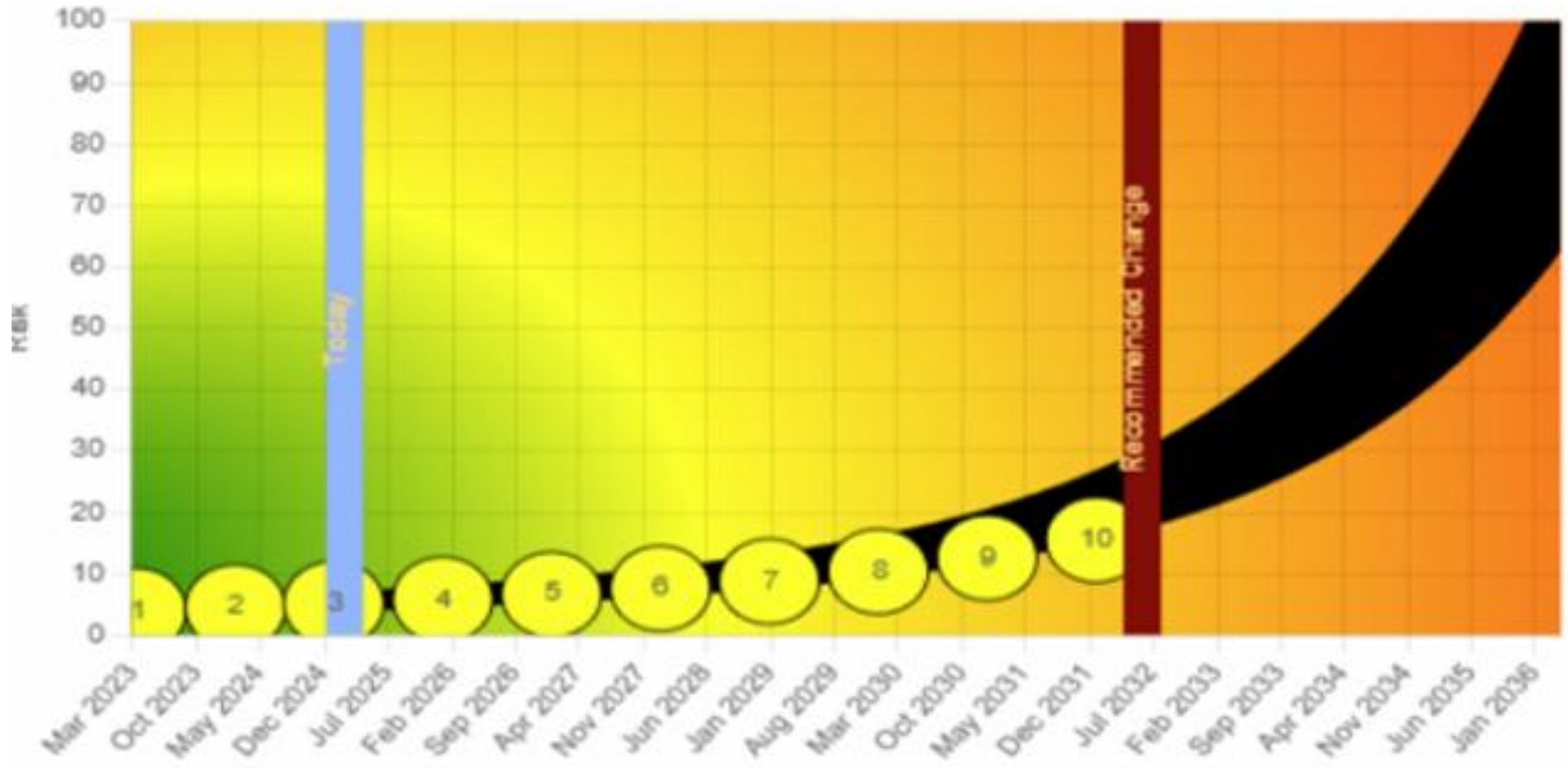
ARTIFICIAL INTELLIGENCE

EXPERIENCE



REAL TESTS

REAL TESTS

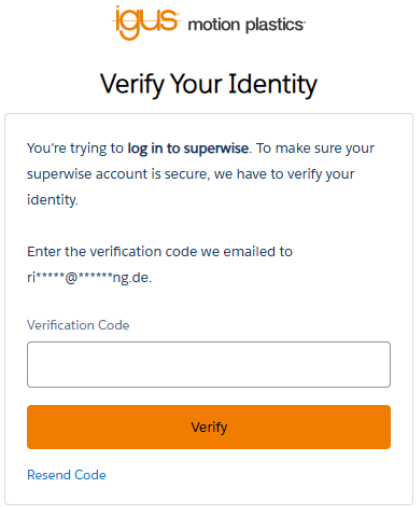


recommended change: 2032

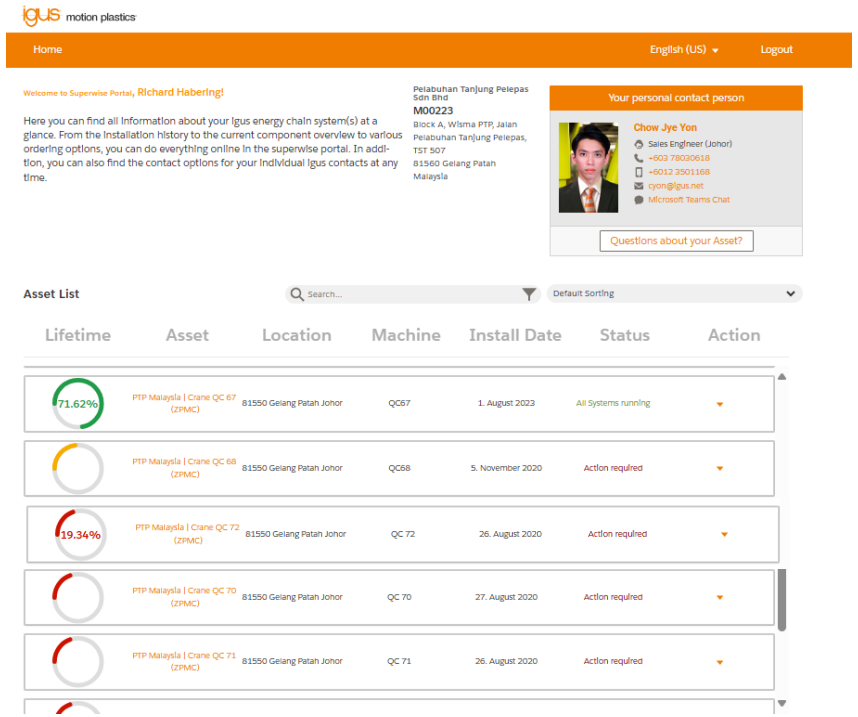
next service: in 11 months

legend

1. service 1
2. service 2
3. service 3
4. service 4
5. service 5
6. service 6
7. service 7
8. service 8
9. service 9
10. service 10



2 factor authentication



All customer assets in overview

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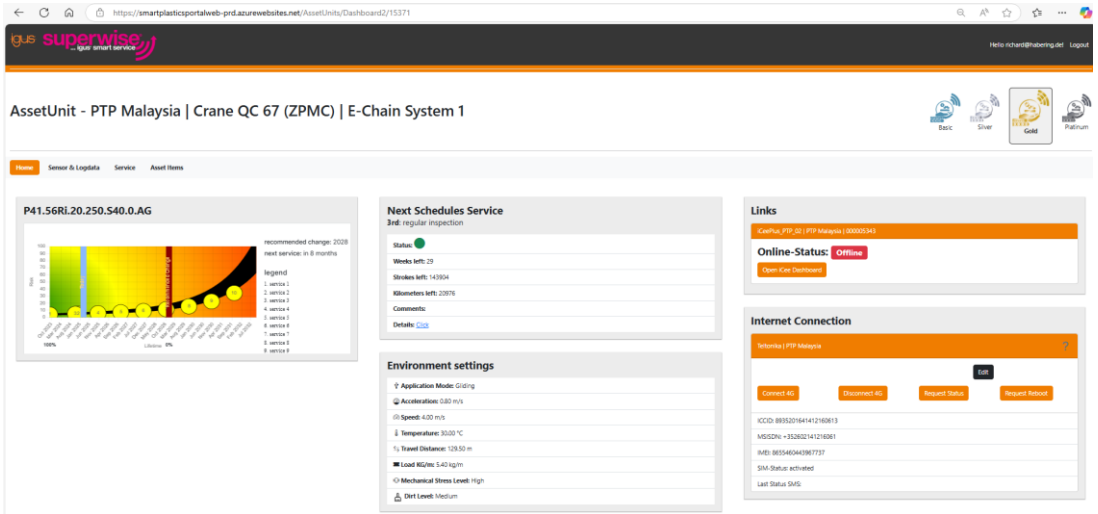
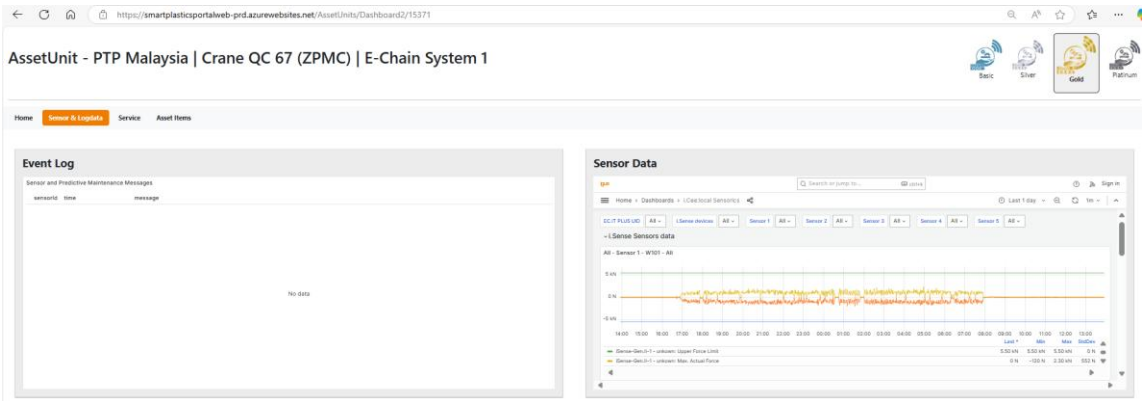
... igus® smart service





Dashboards according Superwise level

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BASIC

Overview

Sensors at moving end

EC.P (1)

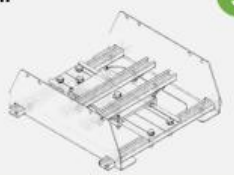
Monitors the push and pull forces on energy chains, recognises blockages and thus prevents expensive damage caused by premature shutdown.

EC.B (2)

Immediately detects chain breaks in energy chains and sends a warning message to prevent further damage and system failures.

Sensors at fixed end

CF.P (3)



Monitors the tensile forces on cables in energy chains and helps to detect overloads at an early stage and prevent system failures.

i.Sense module for Sensor evaluation
PLC connected, data monitoring,

Requirements

- E-chain system®
- No smart plastics sensor technology required

Connectivity

- none

Proactive Service Notification

- Maintenance: time-controlled (e.g. annually)
- Exchange: individual before reaching the optimal exchange time

Exchange recommendation

- Algorithm-based determination of the optimal replacement time to maximize risk-free product service life

Benefits

- Online Presentation

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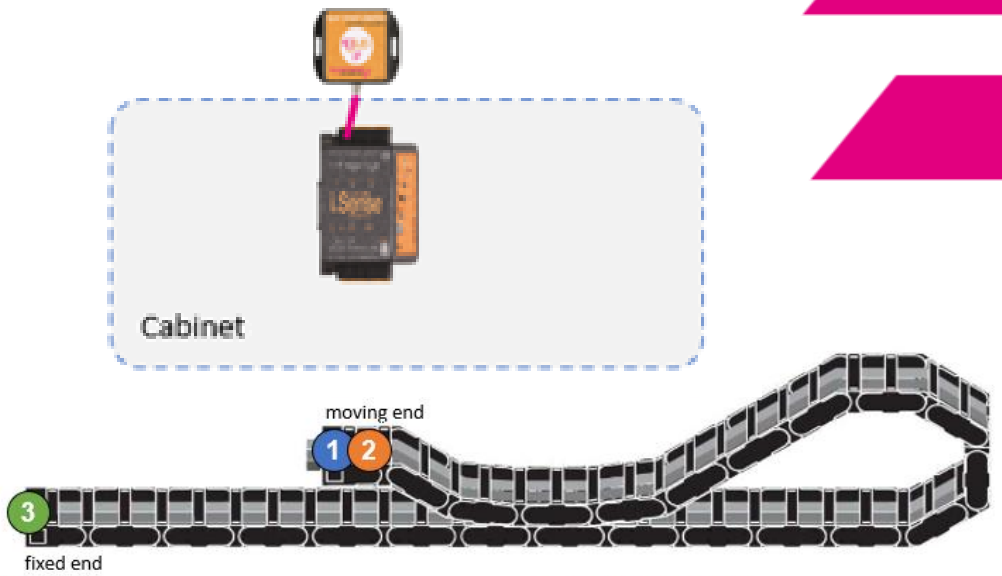
SILVER

ComBox for cost effective, fixed priced connection to superwise portal

i.Sense module for Sensor evaluation PLC connected, data monitoring,

Overview



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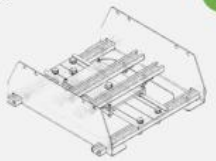
Sensors at fixed end

CF.P 3



Monitors the tensile forces on cables in energy chains and helps to detect overloads at an early stage and prevent system failures.

- Safe serial IoT communication with igus Superwise portal
- 10Years Prepaid – no monthly costs
- OnSite high res sensordata download

Superwise Silver Service:

- Dynamics based dashboard
- Real usage depending replacment and services suggestion by igus team
- Anomaly triggered activities

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... igus® smart service

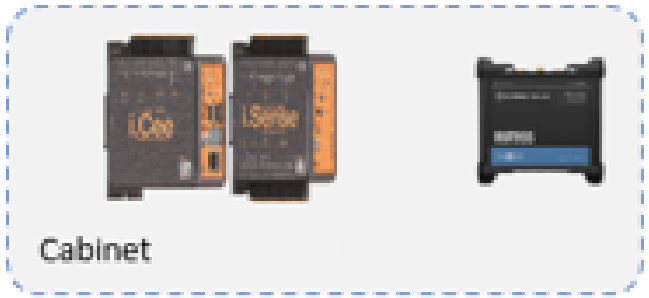
GOLD

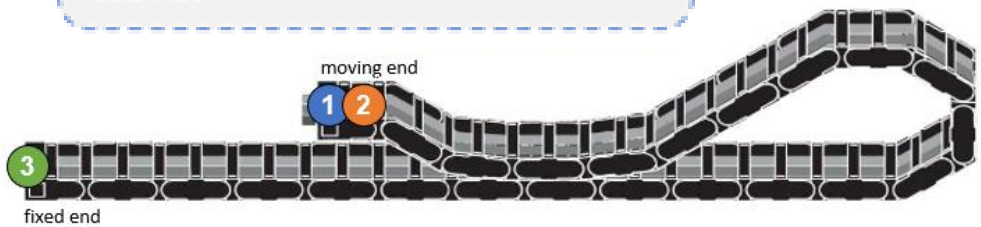
Full IoT mobile router with SIM card
access to high resolution dashboard

i.Sense module for Sensor evaluation
PLC connected, data monitoring,

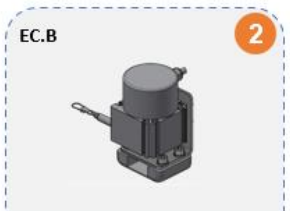
i.Cee module – data visualisation – service management
predictive maintenance – anomaly detection - connectivity

Overview

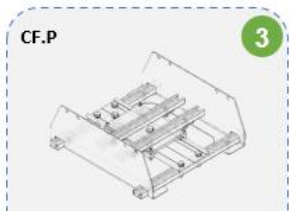




Sensors at moving end

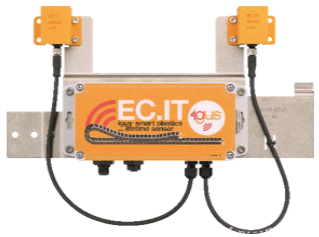


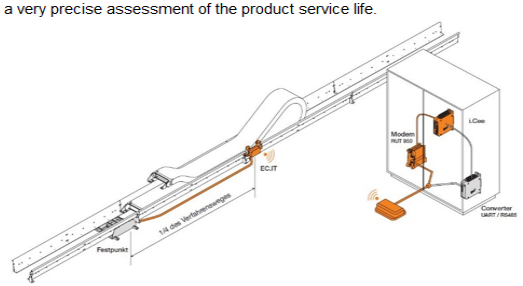
Sensors at fixed end



Lifetime Sensor for rol-e-chains® EC.IT

The EC.IT condition monitoring system for e-chain systems with integrated rollers measures the system status contact-free via sensors mounted on the upper edge of the trough and thus enables a very precise assessment of the product service life.





Material

- Full online access by Internet
- Low monthly, yearly or livetime fares
- Online, high resolution data visualition
- Remote reset

Superwise Gold Service:

- Dynamics based dashboard
- Real usage depending replacement and service suggestion by igus team
- Anomaly triggered activities
- Individual service contract option

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... igus® smart service

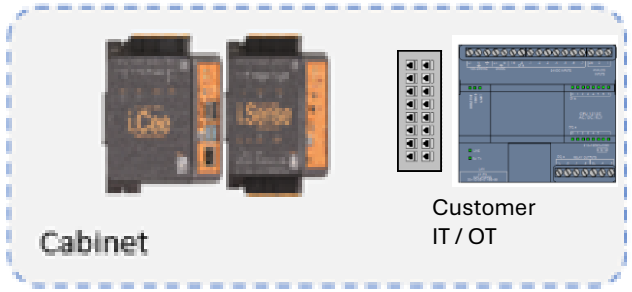
PLATINUM

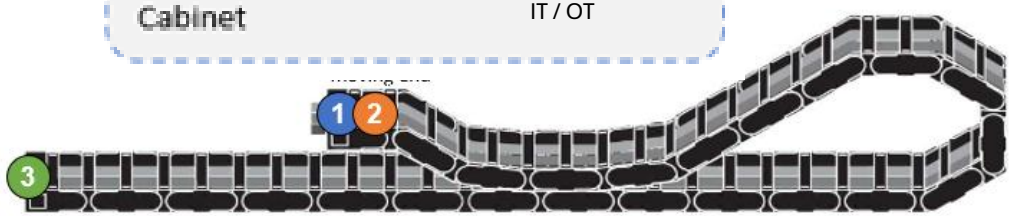
Connection to local customer IT infrastructure (static IP)
Crane monitoring system / PLC / SCADA / MES integration

i.Sense module for Sensor evaluation
PLC connected, data monitoring,

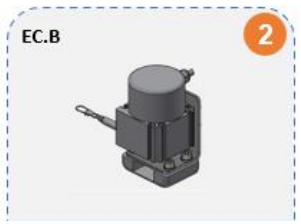
i.Cee module – data visualisation – service management
predictive maintenance – anomaly detection - connectivity

Overview

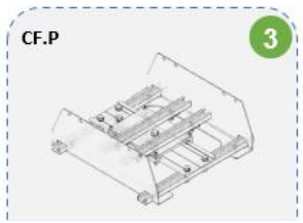




Sensors at moving end



Sensors at fixed end



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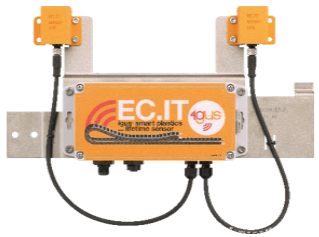
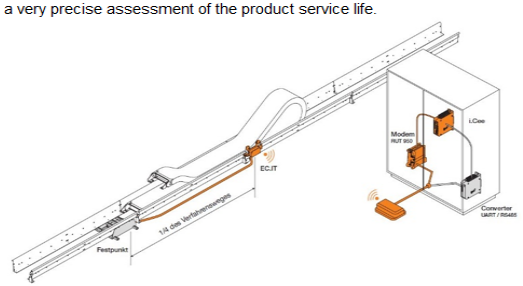




Material

- OFFLINE – No Internet necessary
- Low monthly, yearly or livetime fares
- Remote reset
  tunneled feedback recommended
- Prepared form industry 4.0

Superwise Platin Service

- High resolution sensor data visual
- Real usage depending replacement and service suggestion by igus team option
- Anomaly triggered activity option
- Individual service contract option

SIEMENS

SIMATIC HMI

SIEMENS
SIMATIC HMI

23.04.2020
17:59:31

Machine Parameters

Position	:	0000302	[mm]
Distance	:	0001844	[m]
Cycles	:	0108491	[stroke x2]
E-chain life time	:	0000849	[days]

Device Status

isense EC.P :

isense EC.B :

isense CF.Q :

isense GL.W:

igus

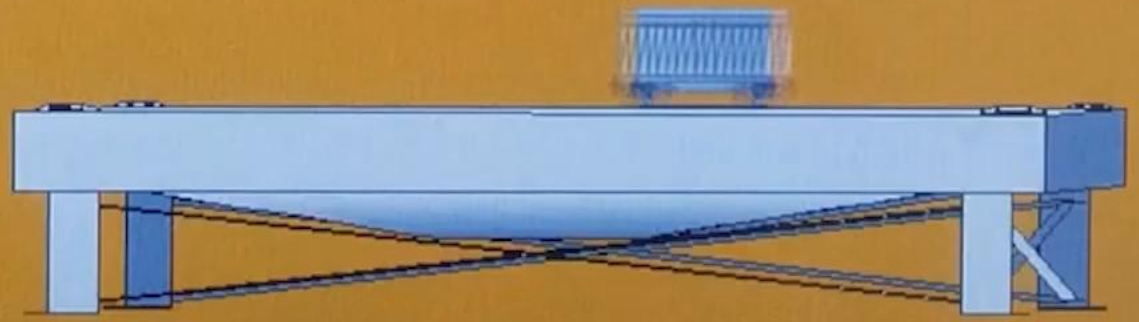
Start

Stop

Speed +

4

Speed -



Motion profile

... Siemens SPS connection

... integrated acceleration sensors EC.W/EC.I M

... OPC UA customer application server

... GPS position data

... igus® positioning system EC.PP

... standard positioning systems, e.g. 4-20mA

i.Cee:software

i.Cee Module

i.Sense Module

i.Cee:output

... Siemens S7

... OPC-UA server

... IoT-Cloud dashboard

... HTTP Dashboard via private IP address

... MES / SCADA

... JSON-File via MQTT Broker

... REST via HTTP

... Text or .CSV file

... Text messages via SMS

... Sensor raw data management via SMB protocol

... Sensor raw data management via FTP

... FANUC Field System Integration

https://igus.lightning.force.com/lightning/r/Asset_Unit__c/a3h6M000000QCPEQA4/view

igus motion plastics

Search...

isales Lightning | Home | Tasks | Calendar | Accounts | Contacts | Reports | Knowledge Search | Knowledge | Chatter | Groups | People | * Testlabor | Sivaplan ECS 6 ...

Asset Unit
AU-0000030

Asset	Suggested replacement date	Lifetime Status	Link to Superwise Unit
Testlabor | Sivaplan ECS 6 (TS) | P4HD.56R.18.250	01.10.2026	26,2 %	https://smartplasticsportalweb-prd.azurewebsites.net/AssetUnits/Dashboard2/90

Asset Unit Information

Asset	Testlabor | Sivaplan ECS 6 (TS) | P4HD.56R.18.250	Lifetime Status	26,2 %
Asset Unit Name	Testlabor | Sivaplan ECS 6 (TS) | E-Chain System 1	Condition monitoring message	
Asset Unit	AU-0000030	Condition monitoring message Date/Time	
Asset Unit Address		Kilometer since installation [km]	220.932
Installation Date		Suggested replacement date	01.10.2026
Suggested replacement date	01.10.2026	Doublestrokes since installation [pcs]	872.100
Next Service	176 Weeks	Product	
Next Scheduled Maintanance	08.03.2029	Smart service agreement	
Service History JSON		Status Message	
Link to Superwise Unit	https://smartplasticsportalweb-prd.azurewebsites.net/AssetUnits/Dashboard2/90	Product	

System Information

Created By	Dennis Roth, 22.08.2023 16:15	Last Modified By	Smart Plastic API, 23.10.2025 15:00


Rom
Rom

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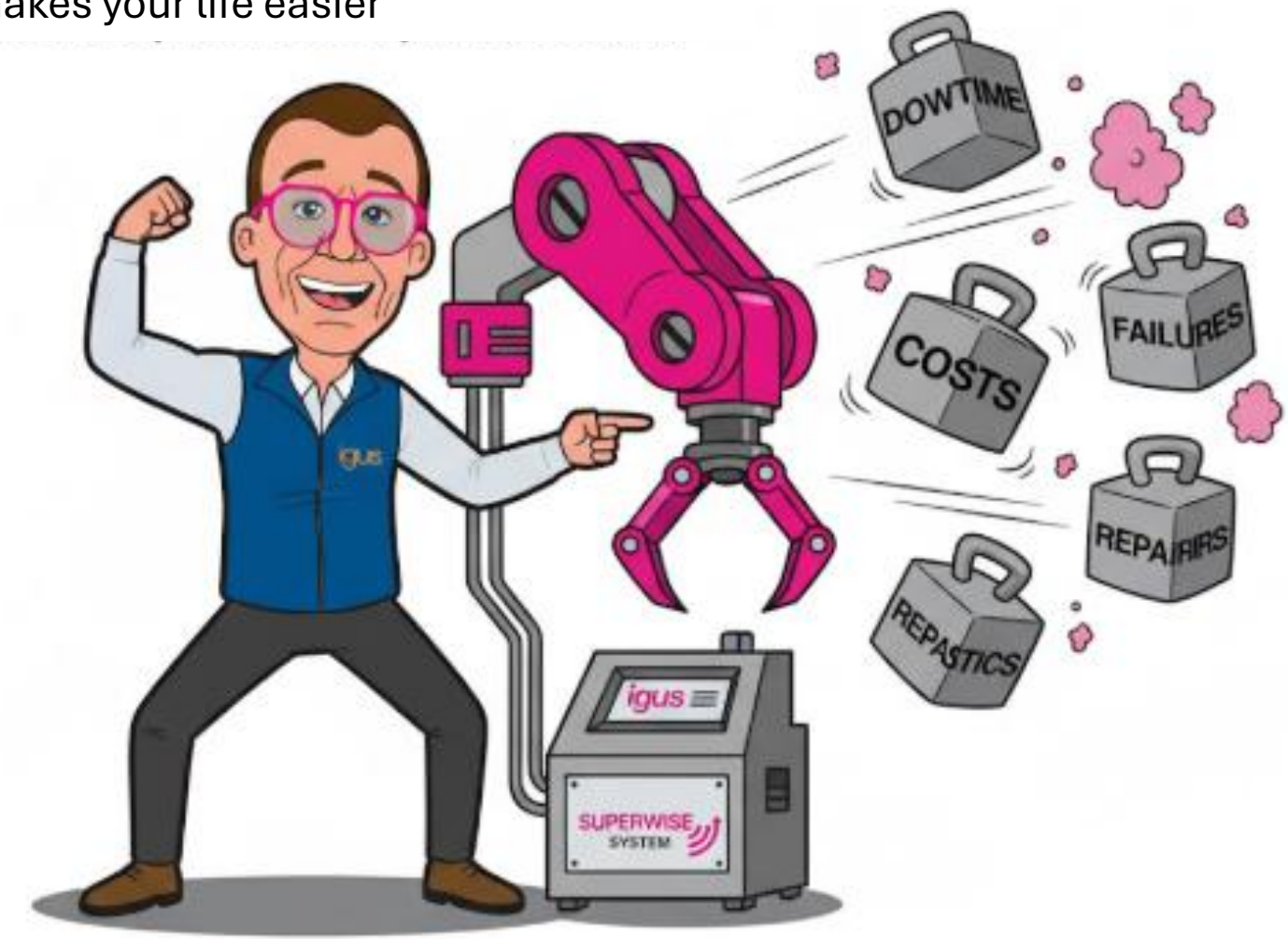
... igus® smart service

...when your component manufacturer
becomes part of your maintenance strategy
and makes your life easier



Intelligent human using artificial intelligence

Superwise based service planning reduces maintenance costs

only when necessary

Timely End-of-Life info = stress-free retrofit projects

More?

- Notifications when action is needed
- Coordinated maintenance planning
- Service agreements
- Service flat rate
- Guaranteed response times
- On-site presence
- Retrofit service
- e-chain as a service

With Superwise: surprisingly affordable

Costs:
smart plastics Hardware
Cloudserver & mobile network
IT integration

Superwise Service itself is

FREE OF CHARGE

superwise®
... igus® smart service

Thanks

more:
www.igus.eu/smartplastics

rhabering@igus.net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