WITTENSTEIN | alpha

cynapse® und Smart Services

Collect. Analyze. Visualize.

It´s new.
It´s connective.
The smart feature.

Herstellungsdatum
2013-01-01
Produkt-Url
Gerätebezeichnung
Software Version
02.01
die Temperatur
36.64 °C
Betriebszeit
0.04 h
Zeit

Unlimited connectivity: your access to the digital world.

Welcome to the IIoT!

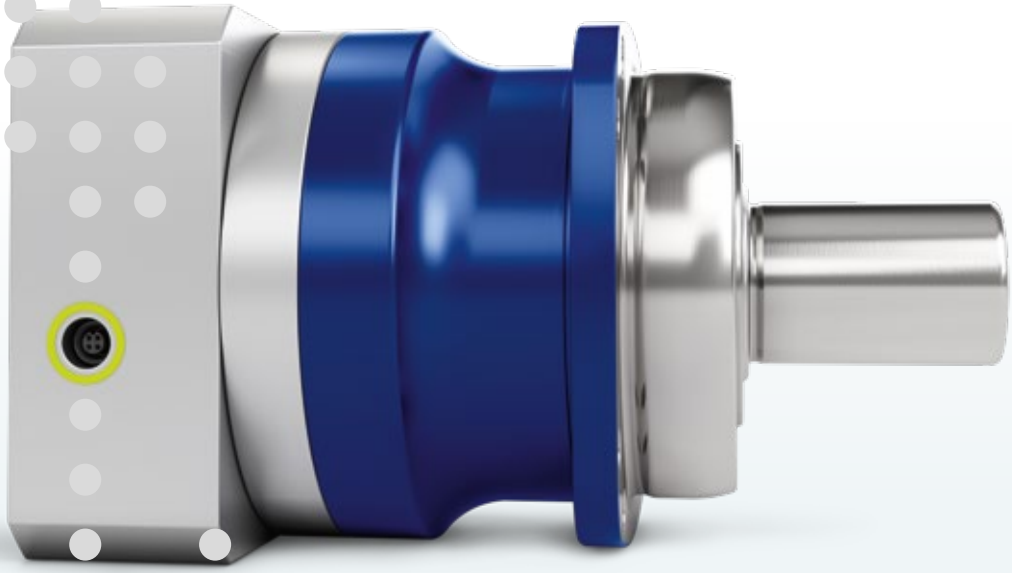
The Industrial Internet of Things (IIoT) is the global IT infrastructure of the future in industrial applications: by linking physical and virtual objects, you enable them to communicate interactively for you 24/7 and map process-relevant information. Using the virtual pool of knowledge which is created in this way, you can optimize processes effectively, reduce your manufacturing costs and make your operations generally more efficient. Play IIoT – cynapse® is your connection to the digital world: In combination with our Smart Services, it creates maximum transparency within the machine and the Smart Factory. Smart Services from WITTENSTEIN alpha analyze your gearbox and process data and actively enhance the quality of machines and processes.

More information about cynapse® and our Smart Services: simply scan the QR code using your smartphone.
www.wittenstein-alpha.com/cynapse

Smart, simple, fast: cynapse® really works!

cynapse® – how it works

cynapse® ensures the gearbox can be easily integrated into the digital world. The cynapse® feature is integrated into the existing installation space and is connected via an IO-Link interface. As a result, measured data such as the gearbox's **temperature, vibration, operating time, and productspecific information** can be accessed.



Your gearbox can do more – and you benefit directly from it

Use advanced functions without any changes to the installation space.

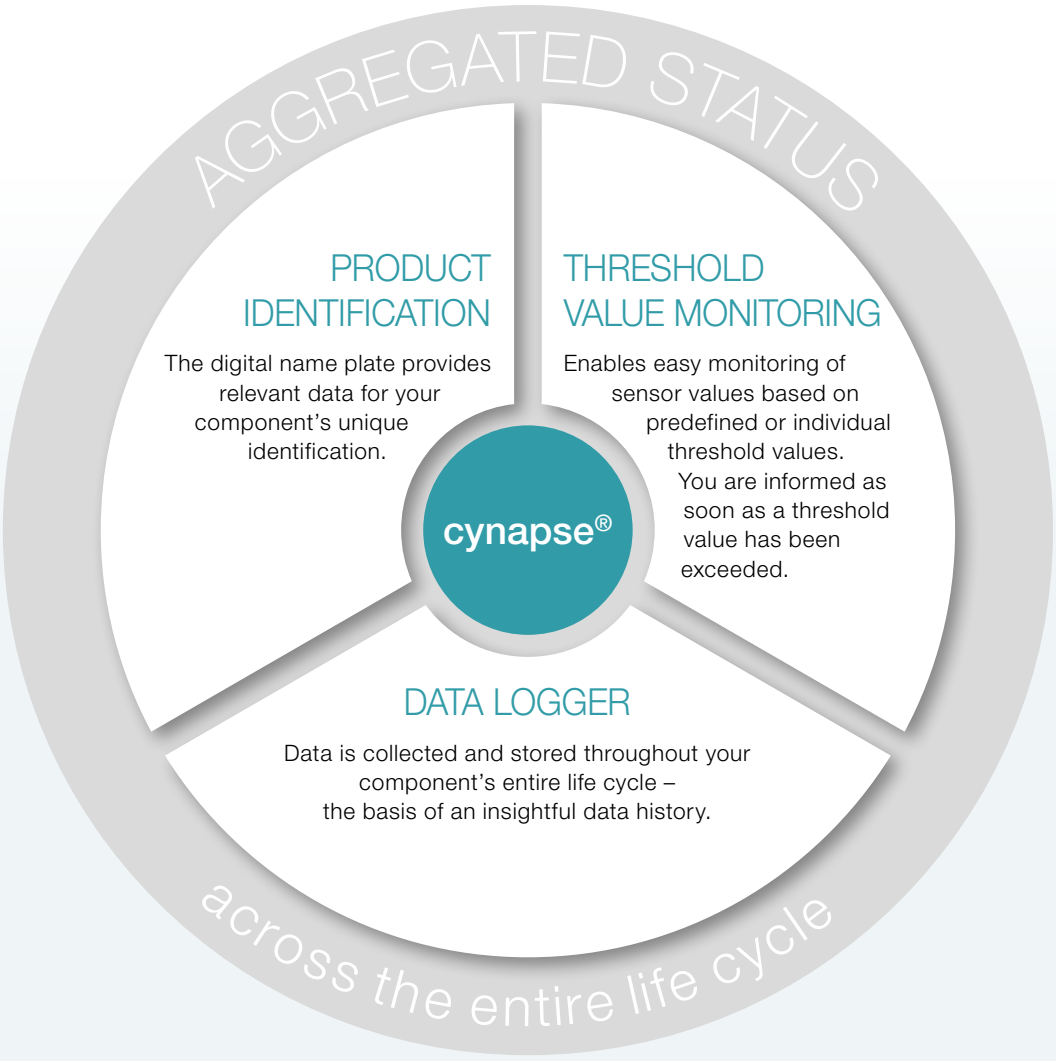
Receive all relevant information – without any additional sensors.

The result: Less effort, higher transparency, maximum operational reliability.

Get connected!

Just always know what's happening!

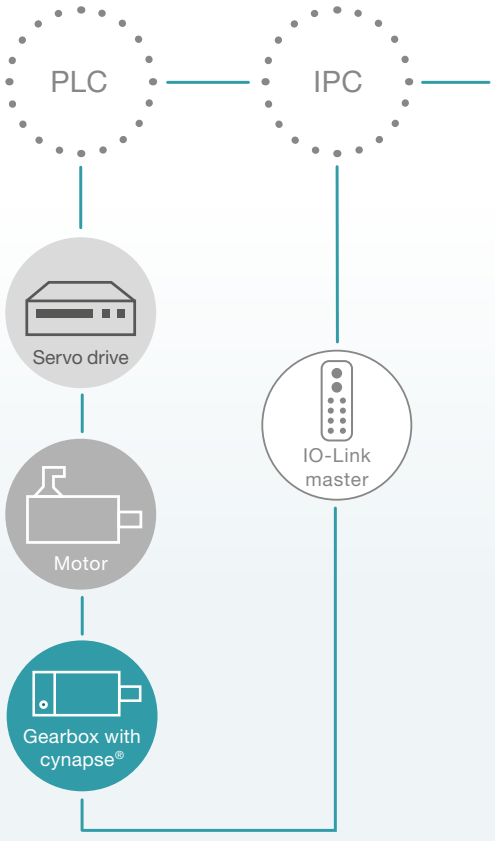
Smart gearboxes with cynapse® measure temperatures and report overheating, they detect vibrations and count operating hours. They store and document all events related to their operation – you systematically receive, for example, all relevant data for preventive maintenance of the gearboxes, minimization of gearbox damage, and prevention of machine downtimes.
cynapse® therefore makes a really crucial contribution to the optimal availability and productivity of your machines.



cynapse® “**talks**” to all common systems

Integration without limits

Gearboxes with the cynapse® feature and IO-Link interface can be directly integrated into your system landscape. You can decide here whether the generated data is only kept in the cynapse®'s internal memory or whether you integrate it into higher-level systems, such as a PLC or gateway / IPC / cloud.
By integrating the data into higher-level systems, you lay the foundation to use our Smart Services.



Smart Services – the perfect addition:

Smart Services add digital value to gearboxes with cynapse® – based on more than 40 years of gearbox expertise. They process, visualize and interpret status data locally, securely and without any programming effort. This enables recognition of critical operating states at an early stage and increases the availability of your machine.

Increase the value of your operational data by:

cynapse® Connect	cynapse® Monitor	cynapse® Analyze
Routing of data	Visualization of data	Interpretation of data

Further information

Get started right away – with the **cynapse® starter kit**

Plug and play

Get started right away with cynapse® and Smart Services.
The starter kit contains all the components you need to connect your WITTENSTEIN gearbox to the world of the Industrial Internet of Things.

· Environment for using cynapse® and the Smart Services

· Starter kit with all necessary components incl. instructions

· Default preparation of components incl. installation of software

· Data usage with InfluxDB + Grafana or in our Smart Services (12-month trial version included)

Time-consuming processes are avoided

· Suitability testing of components

· Installation and commissioning

· Programming your own services to use cynapse®

Our cynapse® starter kit contains:

Hardware

· IO-Link Master, optionally with Raspberry Pi or industrial PC

· Power supply

· Cables

Features

· Storage and visualization of data in InfluxDB + Grafana

· 12-month trial version*: cynapse® Monitor Advanced, cynapse® Connect Advanced

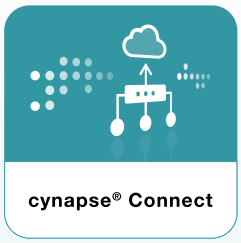
* An active Internet connection is required once to extend the license to use Smart Services.

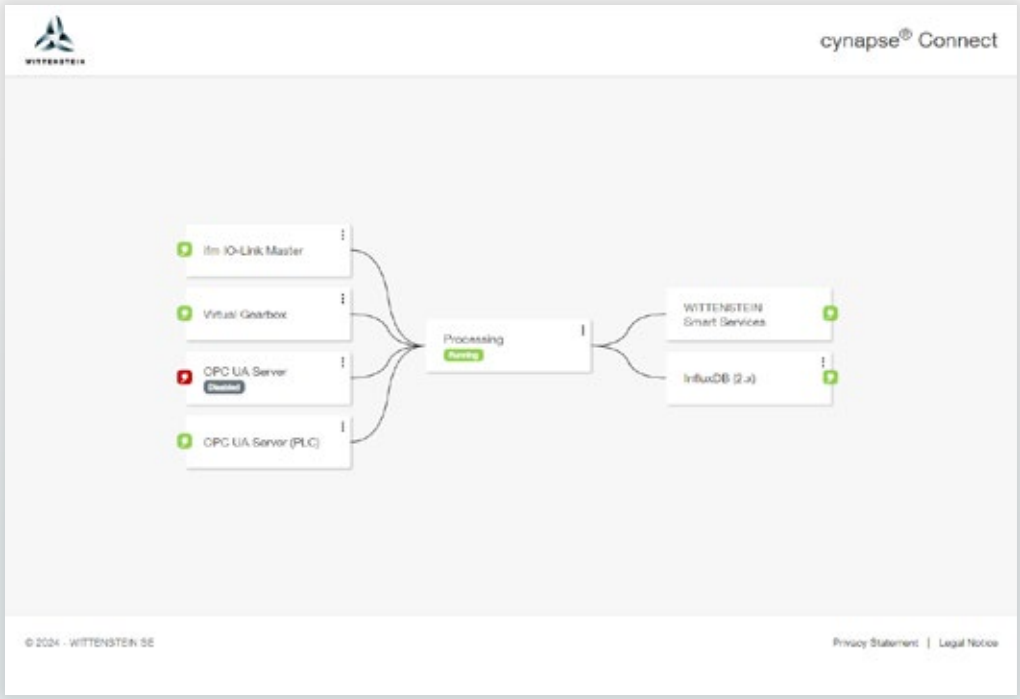
Smart Services –
the perfect complement

The Smart Services expand the functional scope of the cynapse® feature. The basic functions comprise data processing, visualization, and analysis. The specific expertise, which WITTENSTEIN has gathered over more than 40 years of developing low-backlash planetary gearboxes, is used in combination with the operating data to establish and display the status of the gearbox in the Smart Services.

Your benefits at a glance:

- Visualization of the operating data
- Simple and convenient integration
- Determination and monitoring of critical threshold values
- Early identification of problematic statuses
- Avoidance of machine downtimes and associated costs
- Transparency for drive axis





cynapse® Connect

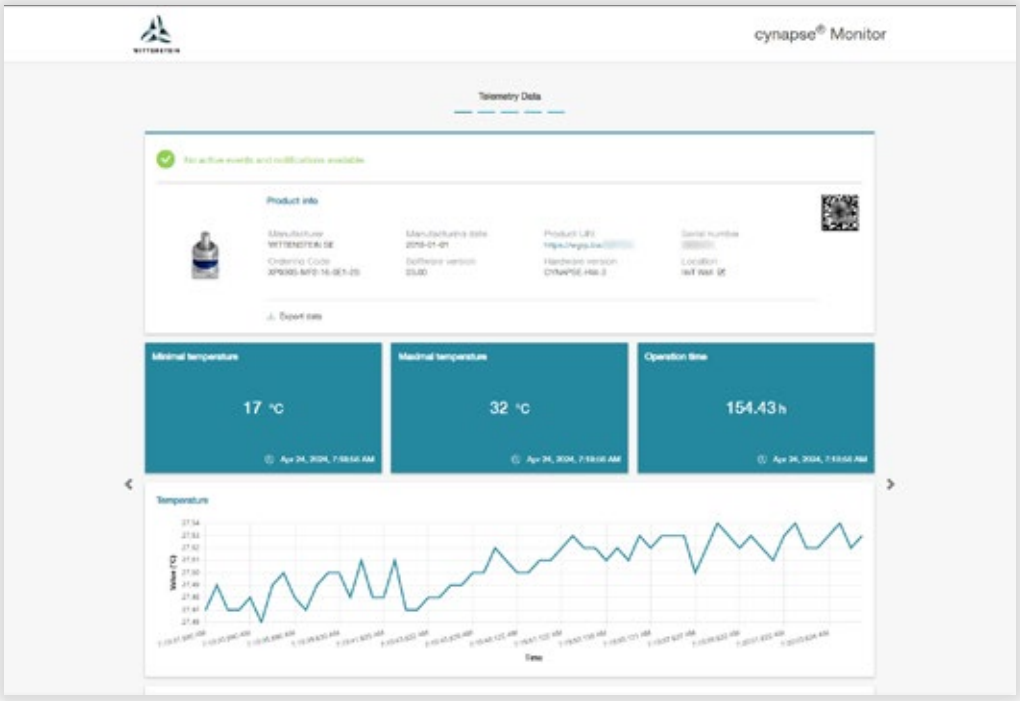
enables integration and routing of data, which is a fundamental prerequisite for condition monitoring. The Smart Service makes the recorded data available in a structured format. It can obtain this data from various source systems via IO-Link or OPC UA and utilizes it for digital services from WITTENSTEIN.

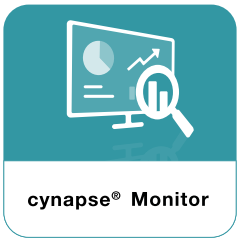
cynapse® Connect thus greatly simplifies the integration of smart gearboxes into the relevant machine infrastructure.

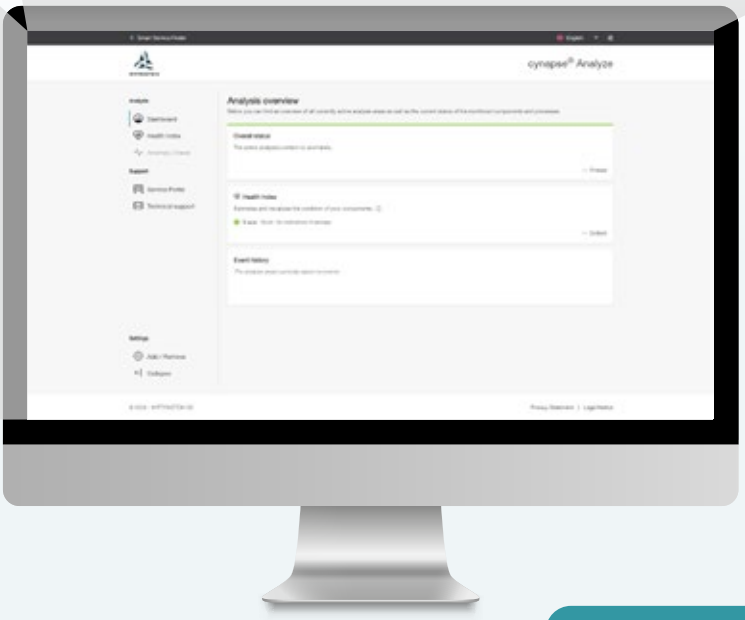
cynapse® Monitor

builds upon the Smart Service cynapse® Connect and enables straightforward evaluation and visualization of operating data. Since manufacturers and operators do not have to develop their own solutions, development requirements are massively reduced. In addition, the data of the cynapse® Monitor service can be used to monitor threshold values of selected parameters.

Deviations and critical states in the behavior of gearboxes or in the relevant process can therefore be identified at an early stage.







cynapse® Analyze

is a constantly growing portfolio of smart analysis tools that enable realtime analysis of drive train data. The combination of intelligent algorithms with WITTENSTEIN alpha's core expertise in gearbox technology results in a wide range of synergy effects. The analysis tools can simultaneously monitor different points in the machine and be used for different machine applications. This enables recognition of more complex deviations in the machine process or component behavior at an early stage.

Machine downtimes can be anticipated in good time, thus preventing high breakdown costs.

cynapse® Analyze – Health Index:
Intelligent gearbox monitoring for maximum performance.

The cynapse® Analyze Smart Service with the Health Index analysis tool and the utilization radar assess the status and utilization of your gearboxes.

The data from the drive train is analyzed in real time and the actual load on the components is evaluated. The current status is visualized via a traffic light system. In addition, the utilization radar indicates whether the gearboxes are permanently operated within the permissible load limits – crucial information for service life optimization.

In case of critical deviations, you will receive early notifications with specific recommendations for action for servicing or replacement of the gearbox. Easy integration into higher-level systems enables seamless implementation. Our smart components recognize their status and automatically report any changes.

Benefit from more than 40 years of expertise in gearbox development – now digitally available in our Smart Services!

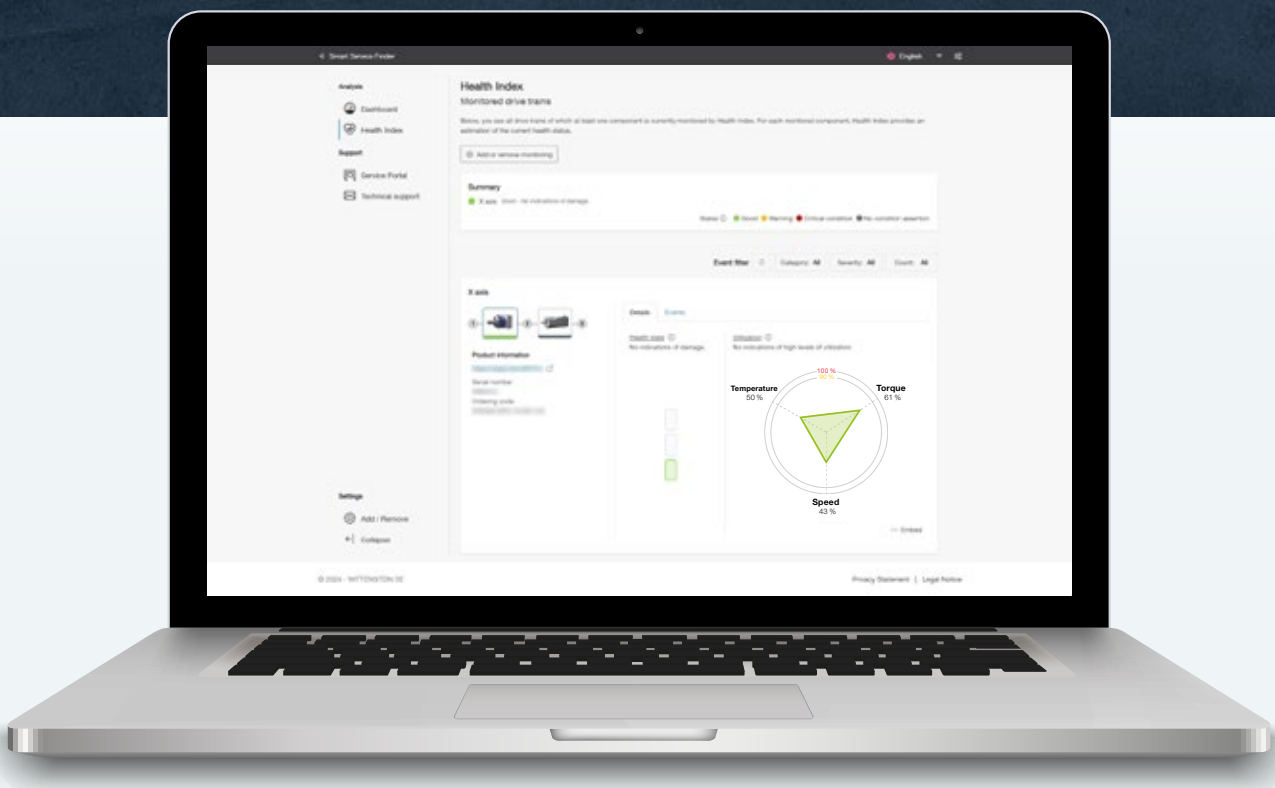
Function

- Evaluation of the actual load and indication of the current gearbox status as traffic light signal
- Utilization radar for recognition of overload situations and assessment of the overall utilization
- Early notification of deviations to avoid impending failures
- Easy integration into higher-level systems

Your benefits

- Maximum availability through avoiding uncontrolled downtimes
- Extended service life due to operation within permissible load limits
- Cost savings thanks to targeted maintenance and refurbishment instead of repair
- Innovation potential through new digital business models and services

Keeping an eye on the right time for a pit stop: cynapse® Analyze – Health Index



WITTENSTEIN alpha

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Subject to technical changes. cynapse® with Smart Services

WITTENSTEIN alpha – Intelligent drive systems

www.wittenstein-alpha.com

The entire world of drive technology – Catalogs available on request or online at www.wittenstein-alpha.com/catalogs

alpha Premium Line. Unique, individual solutions that offer unparalleled power density.

alpha Advanced Line. Maximum power density and outstanding positioning accuracy for complex applications.

alpha Basic Line & alpha Value Line. Reliable, flexible and economical solutions for a wide range of applications.

alpha Linear Systems. Precise, dynamic system solutions for every requirement.

alpha Mechatronic Systems. Energy-efficient, versatile and flexible mechatronic drive systems.

alpha Accessories. Optimally designed and adapted for gearboxes and actuators.