



CoroPlus® ProcessControl

Monitor machining processes and automate actions



Without proper machining monitoring in the workshop, unwanted deviations can cause damage to your cutting tools, your machine tool or your workpiece. The CoroPlus® ProcessControl monitoring system gives you better control of your processes.

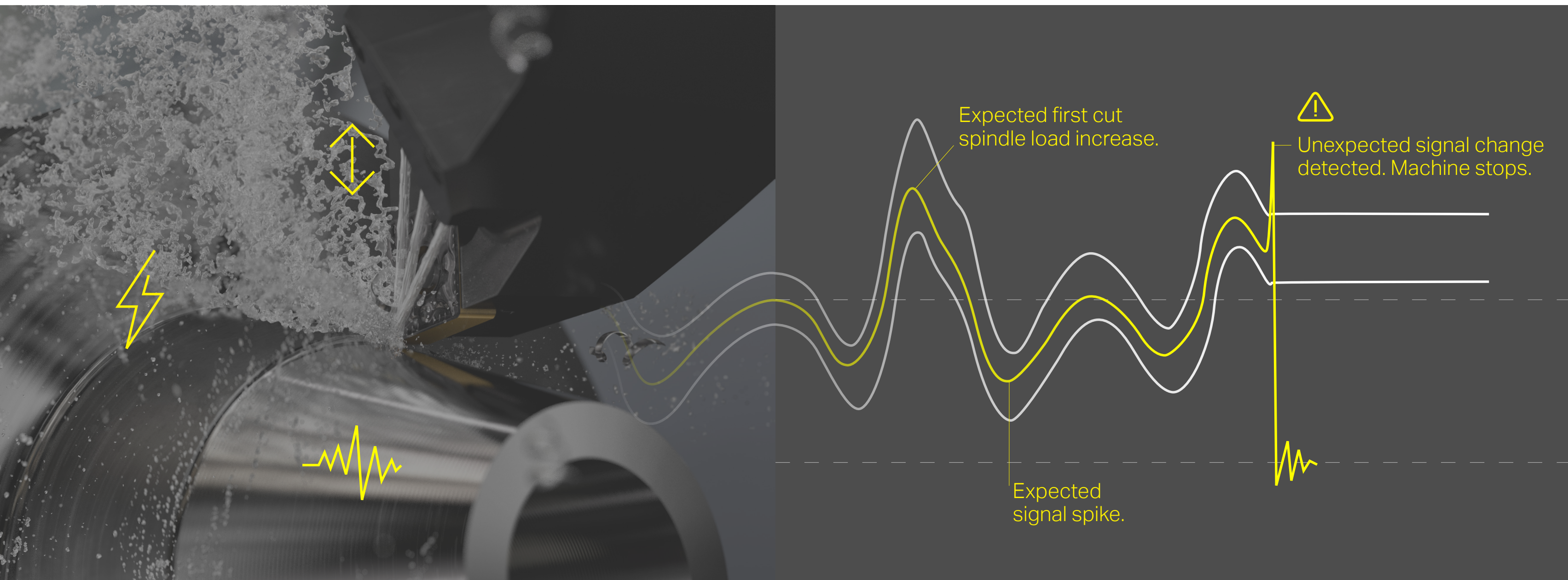
- ✓ Lower production cost
- ✓ Reduced downtime
- ✓ Consistent component quality
- ✓ Less scrap

Automatically detecting and correcting deviations

Machining generates physical characteristics that are detected by sensors or by reading the current machine drive values.

Algorithms are applied to the signals coming from the different sources, deviations from the expected process are detected and corrective actions are applied.

Digitised knowledge of machining and advanced hardware and software means that everything happens in just a few milliseconds.

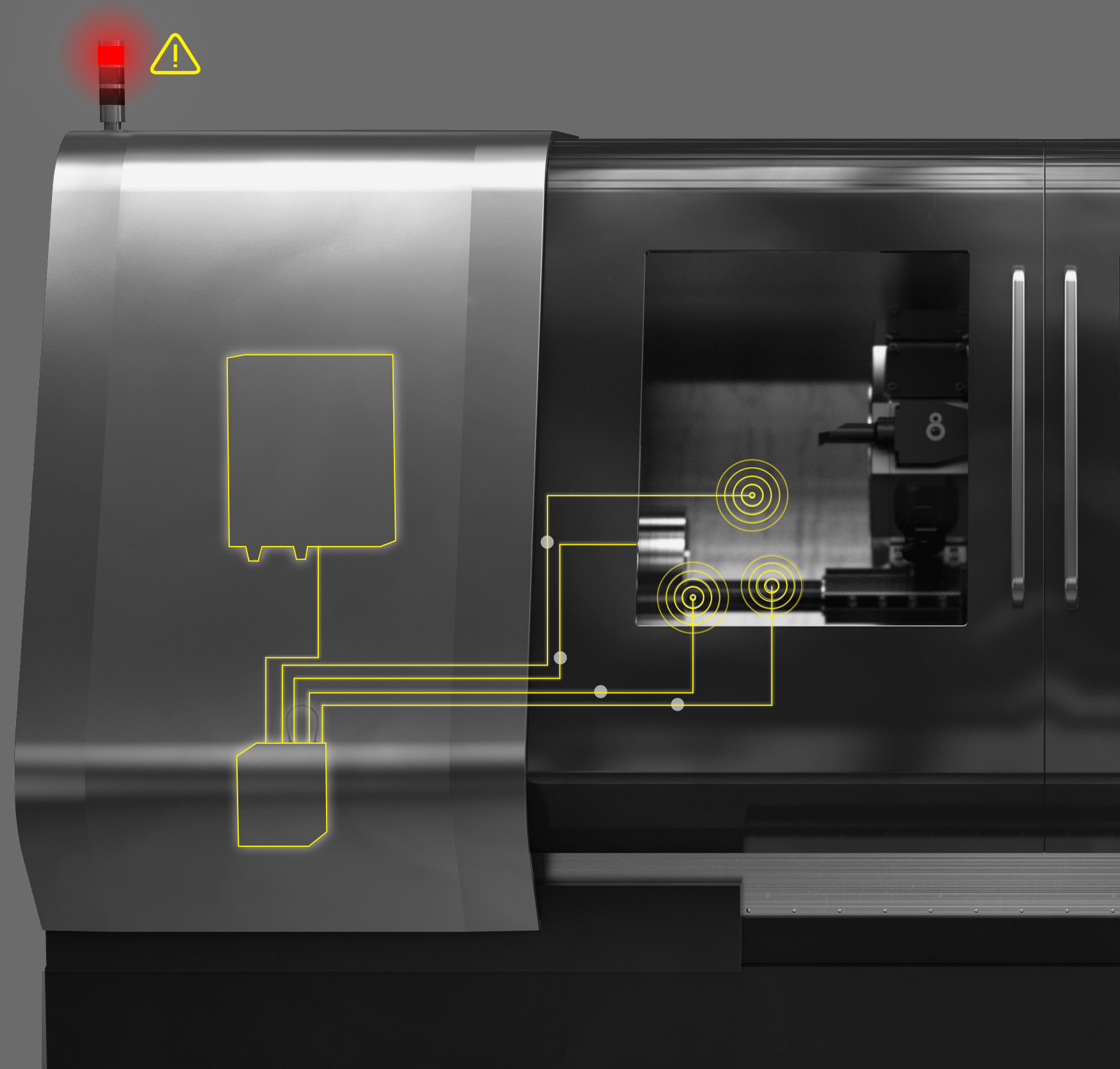


Collision detection

- ✓ Process security
- ✓ Machine tool security

Consider collision detection when:

- ☐ Collisions risk damaging costly components or machine tools
- ☐ Machine requires frequent setups
- ☐ Manual clamping changes
- ☐ Running untested NC programs



Collision detection will monitor the machining force or vibration and instantly stop machining in case of an overload.

Tool breakage detection



- ✓ Consistent component quality
- ✓ Process security
- ✓ Reduced downtime
- ✓ Protected investment
- ✓ Missing tool detection

Consider tool breakage detection when:

- ☐ Tool breakage causes damage to the component or interrupts the manufacturing process
- ☐ Production is unmanned
- ☐ Producing large batches sizes
- ☐ Working with expensive components
- ☐ The tool life is unreliable

Tool breakage detection measures the machining force, vibration, power, torque and drive data and reliably interpret deviations in the signal as tool breakage. A tool breakage event can trigger a range of actions, for example stopping the machine or changing the broken tool.

Tool wear detection

- ✓ Lower total tool cost
- ✓ Consistent component quality

Consider tool wear detection when:

- Producing large batches

Tool wear detection analyses the sensor input data over time and detects wear on a cutting tool. This allows various actions to be programmed, for example stopping the machine or changing a tool.

Contact detection



- ✓ Increased automation of the machining process

Consider contact detection when:

- ☐ Air-cut times are significant
- ☐ Changing stock levels (greater material dimensions)

Contact detection analyses the sensor signals to determine whether or not the tool is in contact with the workpiece. The signal is transferred to the machine, which can be programmed to perform multiple different actions, for example adjusting the feed.

One package solution



Technical consultancy

Defining the optimal process control solution requires a systematic analysis of your needs. Our offer therefore starts with a discussion with a Sandvik Coromant engineer, enabling us to tailor a solution that will meet your specific requirements.



Infrastructure

Our offer includes a mix of different hardware and software:

- Monitoring devices to be mounted in the machine tool's electricity cabinet, close to the PLC
- Industrial sensors optimised for specific tasks, to be installed close to the machining area
- Software for installation on the NC and the machine's HMI
- Some installations require a separate operator panel module



Installation and support

Our engineers will install and set up all the required infrastructure based on our agreement. After installation, our engineers and customer service will be able to assist you on site or via other channels when required.

What process control features would benefit your manufacturing?

- ☐ Collision detection
- ☐ Tool breakage detection
- ☐ Contact detection
- ☐ Tool wear detection

The solution is available in selected markets.

Find out more:
Contact your Sandvik Coromant representative or visit
sandvik.coromant.com/processcontrol