

# SafePilote

*Protect your Machines  
and Tooling*



## CDL

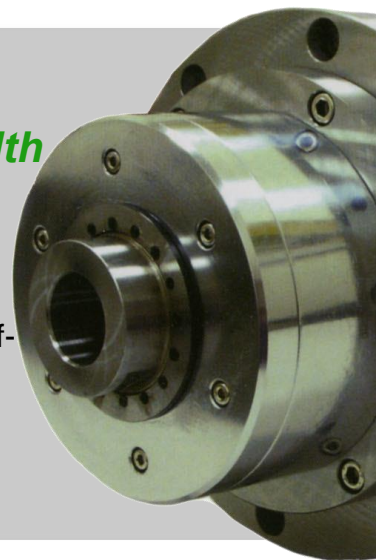
*Minimize Damage  
resulting from  
Collisions*

SafePilote is a 3-axis accelerometer sensor and processor specially designed and built in Digital Way's lab to provide you with the most effective means for protecting your machines against damage resulting from a crash or a collision.

## MCM

*Monitor and Analyze Machine's Health*

Excessive vibrations during machining are one of the main sources for degrading the quality of your production. This system helps you keep your machine working in good condition. Its very high sensitivity also gives you the ability to detect out-of-balance problems with your high-speed tooling. SafePilote MCM acts as a true "black box" that will allow you to track all unexpected events occurring during the use of the machine. Each alarm is stored in the system's memory with the corresponding shock and vibration curves.



## HSM

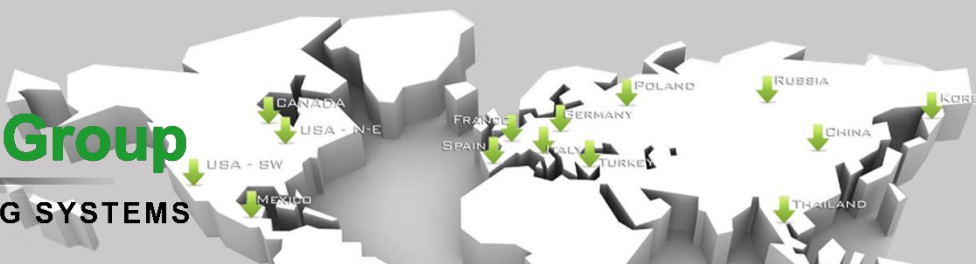
*Ensure Production Quality*

SafePilote HSM detects metal chips between the tool and the tool holder. This very fast and sensitive balancing measurement system allows you to guarantee the quality of your machining – especially reamers. After every tool change, and during the approach phase of the tool, SafePilote HSM will check for a chip between the tool holder seat and the spindle cone. Depending on the specifics of the application, SafePilote HSM can detect chips down to 0.01mm.



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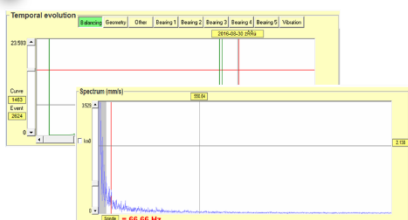
TOOLS & MACHINE MONITORING SYSTEMS





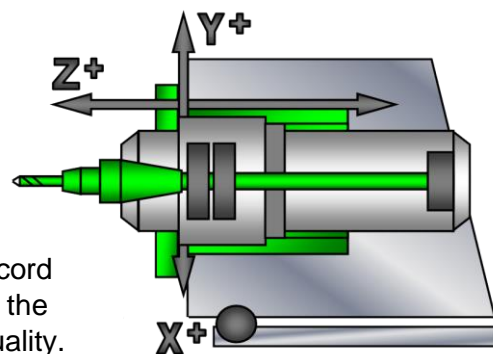
# SafePilote Machine Condition Monitoring

## Spindle

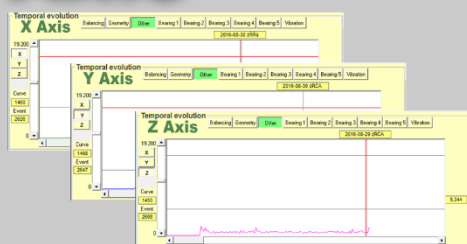


- **Balancing check**
- **Shaft Geometry**
- **Misalignment**

Mounted on your machine's spindle, this powerful system will allow you to record and store vibration data associated with the current machine condition or process quality.

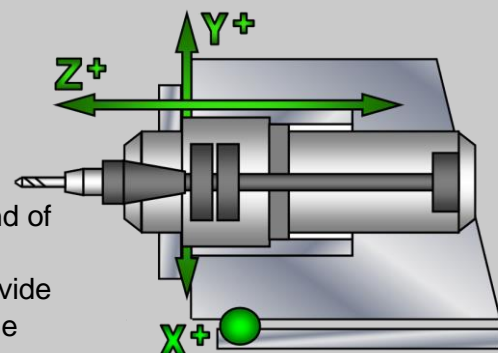


## Axis



- **Ball screws and slides**
- ### Analysis

SafePilote can be installed on any kind of machines: Machining centers, turning centers, grinding machines. It will provide you with valuable indications about the condition of your moving elements.

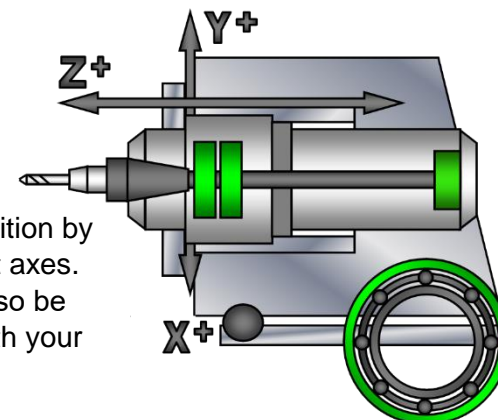


## Bearings



- **Outer Ring**
- **Inner Ring**
- **Rolling elements**
- **Cage**

Keep an eye on spindle bearing condition by controlling vibrations in the 3 different axes. Thanks to its high sensitivity, you'll also be able to detect any balancing issue with your high speed tools.



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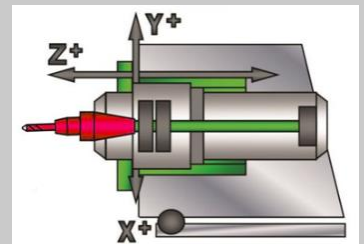
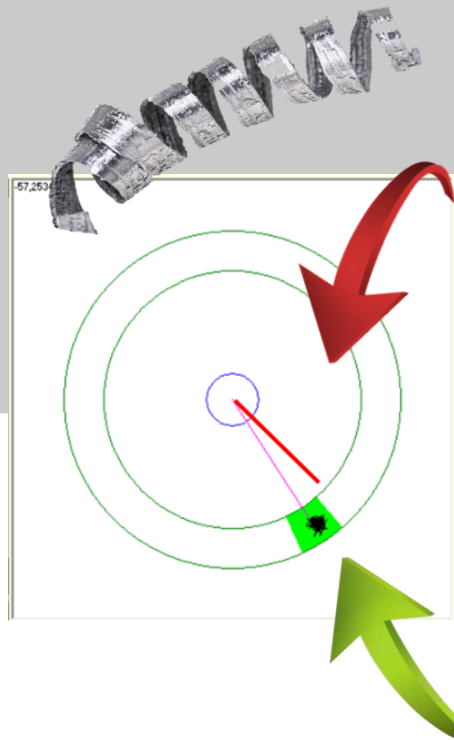
# SafePilote Holder Seat Monitoring

## *Detects a chip in the tool holder*

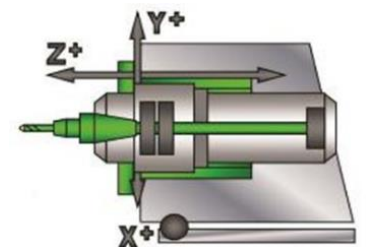
Machining centers that use automatic tool changers provide many production benefits, but they are susceptible to contamination by metal chips and swarf. Air blasts are no guarantee that debris will not become trapped between the tool holder seat (or taper) and the spindle cone. This debris has a direct impact on part quality.

During the tool change cycle, if a metal chip remains between the tool holder seat and the spindle cone, the tool will be off-centered and the machining will be out of tolerance: When using a reamer, for sure the part will have to be scraped!

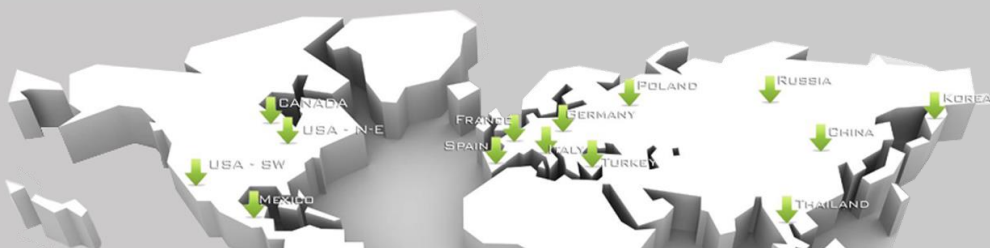
Mounted on your machine's spindle, the high-resolution sensor specially developed for this application can detect in less than 0.4 second the presence of a chip of a thickness down to 0.01 mm.



Small metal chip in the tool holder: Machining out of tolerance



No chip: signal in the correct check area







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