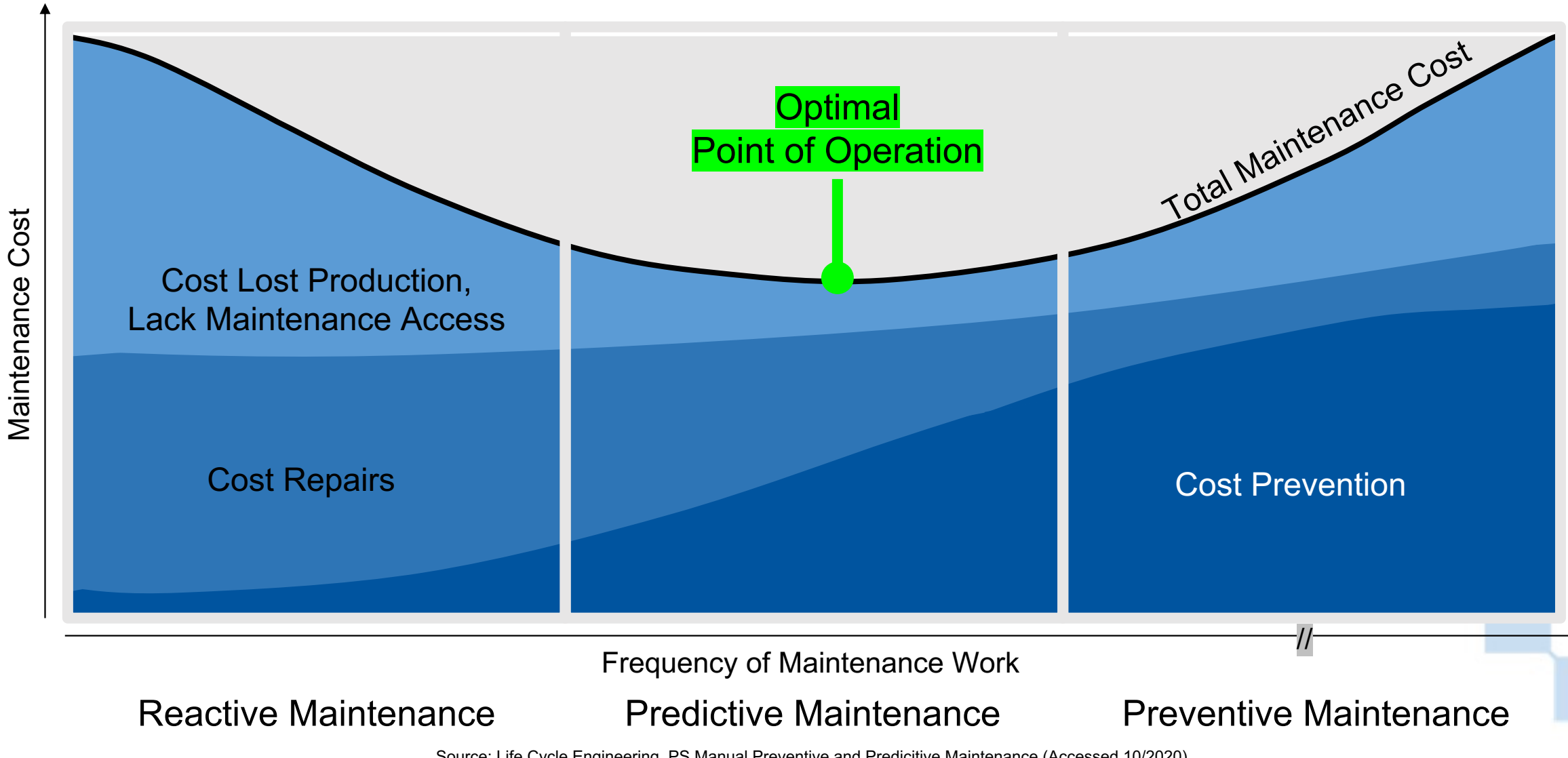
# Predictive Maintenance: AI applied in the Machining Industry

Dr Benny Drescher, Nov 23, 2021

Image: www.hippopx.com

# The shift towards predictive maintenance ensures product quality and reduces maintenancee cost.



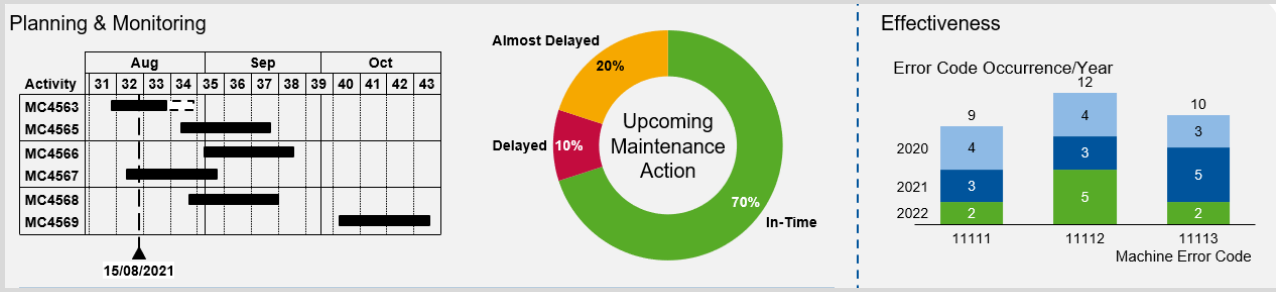

Source: Life Cycle Engineering, PS Manual Preventive and Predicitive Maintenance (Accessed 10/2020)

# FLAIR conducts an applied research project for prediction of tool wear and tear and schedule maintenance actions of CNC machines.

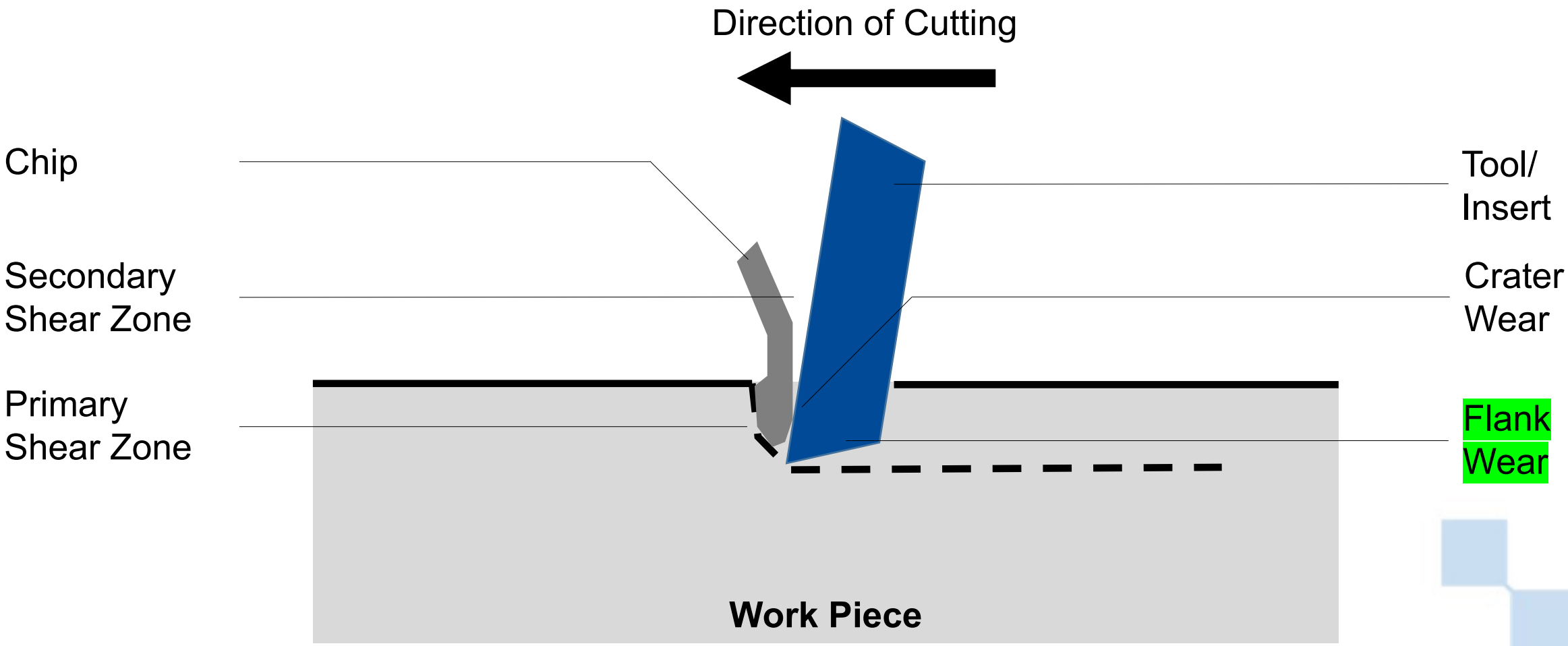
**Objective 1:**
Predict wear and tear of cutting tools

| Data Sensing and Visualization | Condition monitoring and fault detection | Maintenance Measures |
|---|---|---|
| ■ Realtime Data Sensing<br>■ Visualize tool/ spindel condition | ■ Tool wear trend analysis<br>■ Fault detection by machine learning | ■ Derive measures<br>■ Inform personnel |

**Objective 2:**
Plan and schedule maintenance actions



Flank wear is the result of abrasion and occurs at the tool flank where it contacts with the finished surface of the work piece.



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