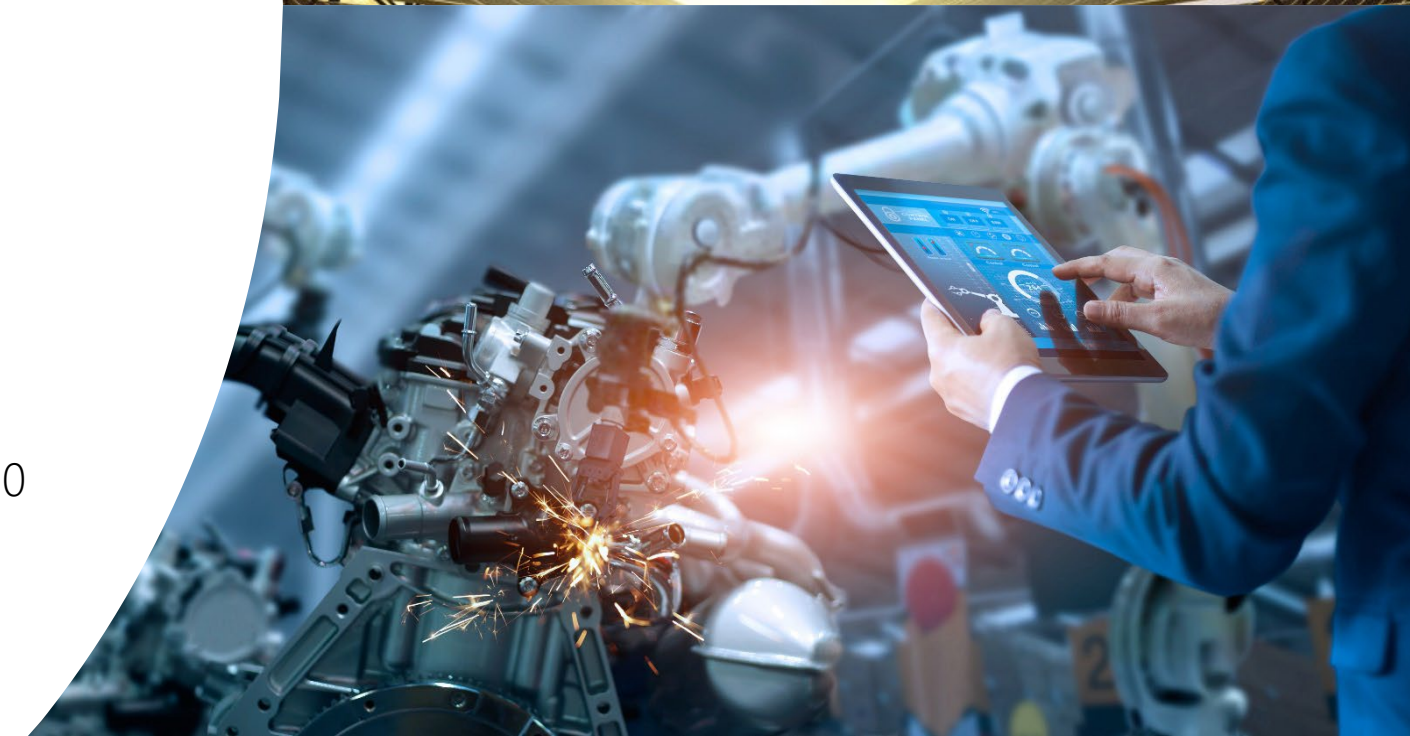
School of Engineering

# Predictive Maintenance of large Machine-Fleets with Deep Learning



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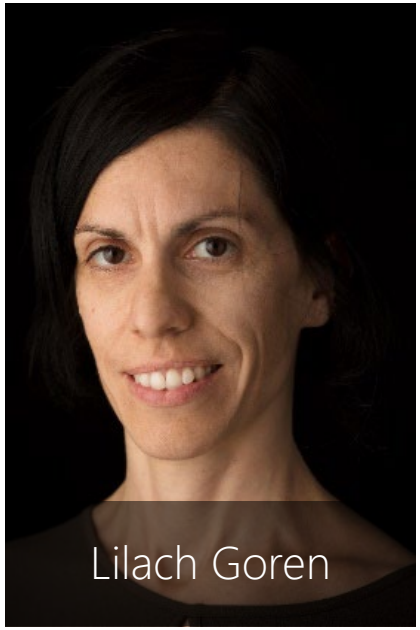
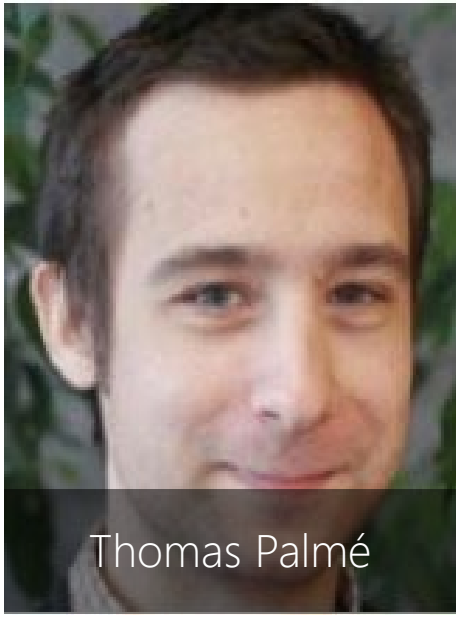
ZHAW School of Engineering

F&E Konferenz zu Industrie 4.0
Januar 2022

# Smart Maintenance Team at ZHAW



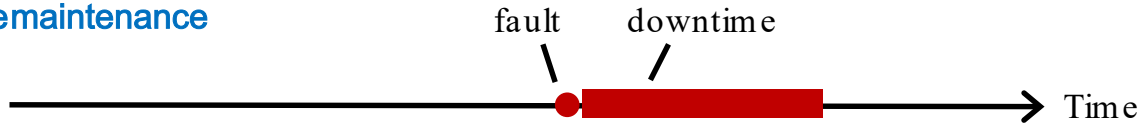



www.zhaw.ch/de/engineering/institute-zentren/idp/forschungsthemen/smart-maintenance/

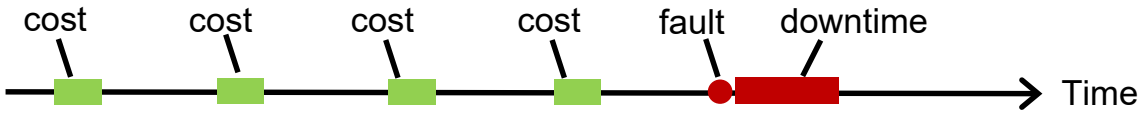
# Introduction

# What is predictive maintenance?

## Reactive maintenance




## Preventive maintenance

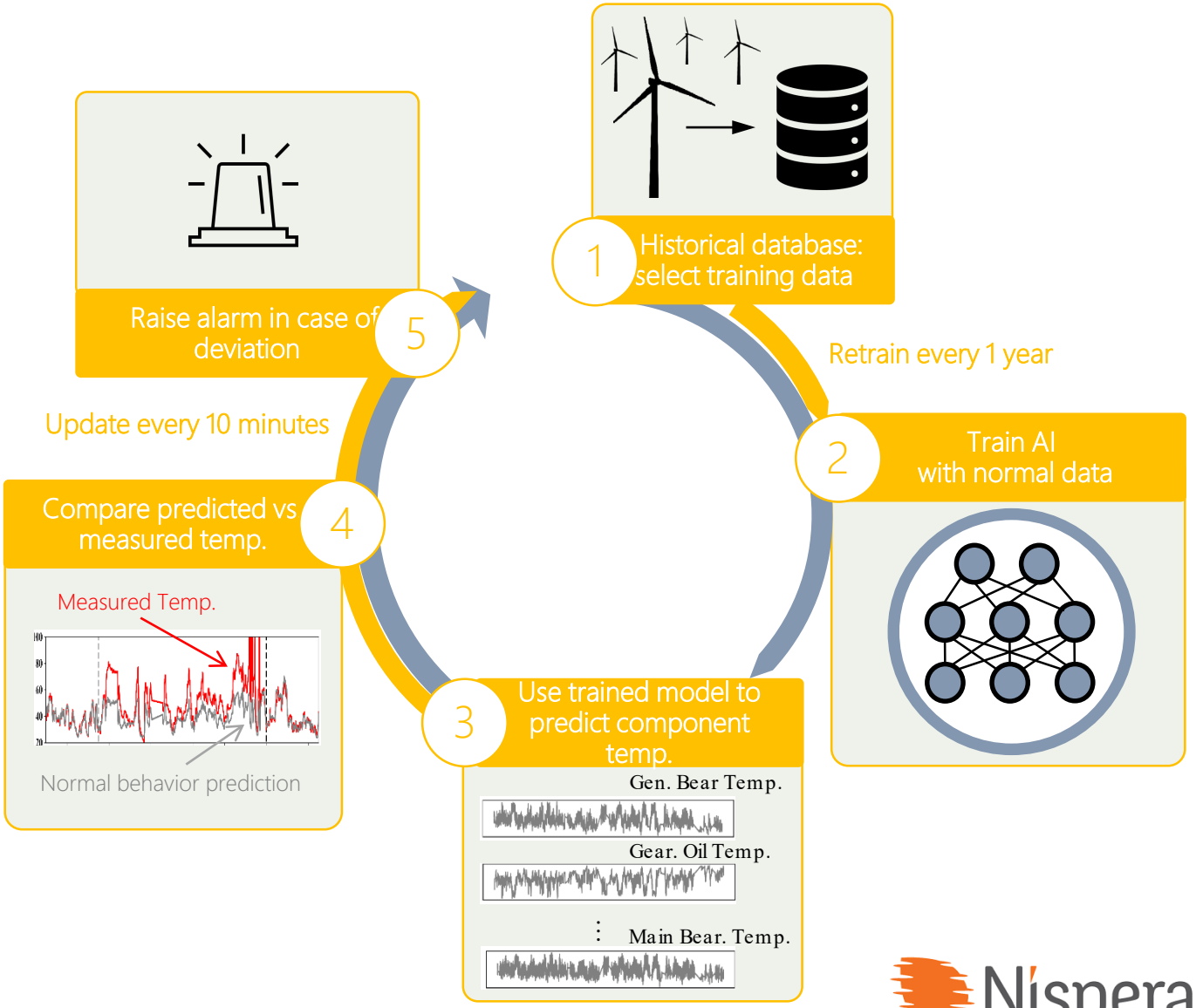



## Condition based maintenance

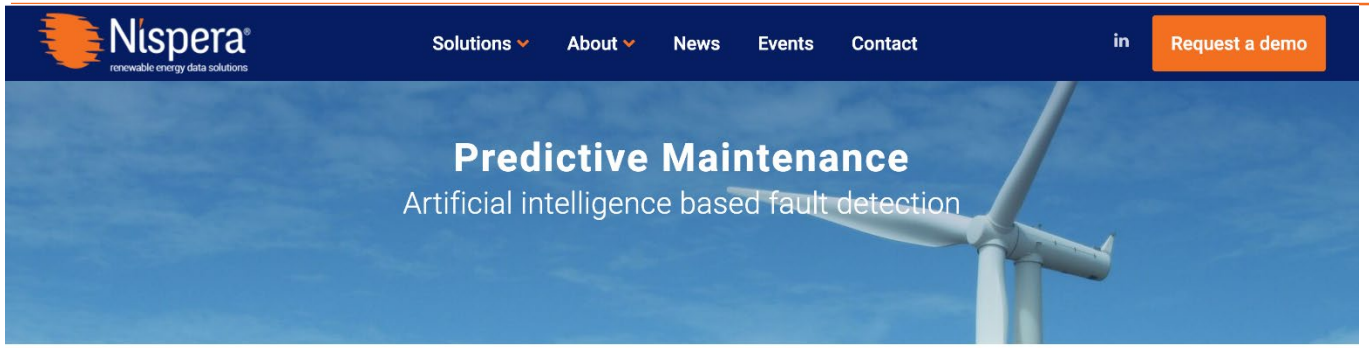
## Predictive maintenance

- ✓ Shorter and more accurate repair
- ✓ Reduced downtimes
- ✓ Increased planability
- ✓ Cost-effective scheduling

# AI for Smart Maintenance



# Upscale to Market




## Detect faults before they occur

Nispera's predictive maintenance solution uses artificial intelligence to identify the failure patterns of your assets and release alarms at an early stage

[nispera.com/solutions/predictive-maintenance](nispera.com/solutions/predictive-maintenance)

# Wirtschaftspartner

Bystronic

swissport

Nispera

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Bundesamt für Strassen ASTRA
Office fédéral des routes OFROU
Ufficio federale delle strade USTRA

ZÜND
swiss cutting systems

iwb

STADLER
Clevere Lösungen auf der Schiene

General Electric

ALSTOM

ALTIS

EKZ

mespas

am-tec
switzerland

Oxand
Asset, Ageing & Risk Management

SBB CFF FFS

EnBW
Energie braucht Impulse

STADTWERK
WINTERTHUR

NASA

WIN GD
Winterthur Gas & Diesel

MACQUARIE

SIEMENS

ASE

Endress+Hauser
People for Process Automation