

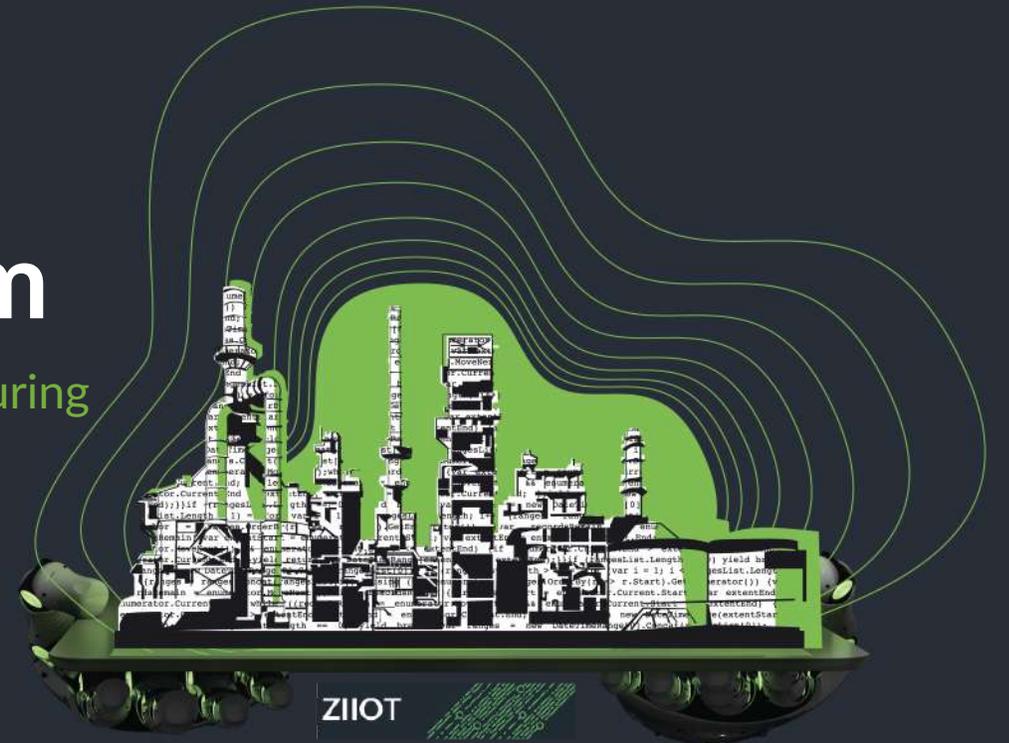


Zyfra Industrial IoT Platform

«Best practices in implementation Industry 4.0 for manufacturing sector during

COVID-19 outbreak, lessons, outcomes and values»

zyfra.com



Zyfra Strategy & Business Model

ZYFRA IS A DIGITAL SOLUTIONS VENDOR IN THE GROWING MARKET OF IIOT, ADVANCED ANALYTICS AND INDUSTRIAL AI

OUR STRATEGY

WE ARE INCREASING HEAVY INDUSTRIES EFFICIENCY & EFFECTIVENESS APPLYING DIGITAL INNOVATIONS AND BUILDING DIGITAL TWINS OF INDUSTRIAL ASSETS



Acquisition of leading IT vendors in mining, drilling, process and machinery segments



Piloting and scale-up of IIoT Digital Platform and AI solutions



Synergy of digital solutions with inhouse/partner hardware providers

Zyfra Snapshot



474

Process industry clients



77

Mining clients



22

Countries of operations



24 000

Connected equipment



30

AI product deployments



5 500

Oil&Gas wells supervised



84

Partners



800+

Employees



350

Software developers



\$35 mln+

2020 Revenue



Entrepreneurial Company of the Year in the AI-based Solutions for Process Industries



X2

THE TOP-10 BEST IOT WC
2 YEARS IN THE ROW
2018, 19. Heat Treatment AI,
Artificial Lift

BUSINESS TRANSFORMATION
AWARD 2019
“Intelligent Mine –
mine of the future”



TOP MINING TECH SOLUTION
in Europe 2020 by Enterprise
Technology Review



IoT CIS Award 2020
IOT COMPANY OF THE YEAR
The best IoT Platform,
The best IIoT Solution for heavy industries



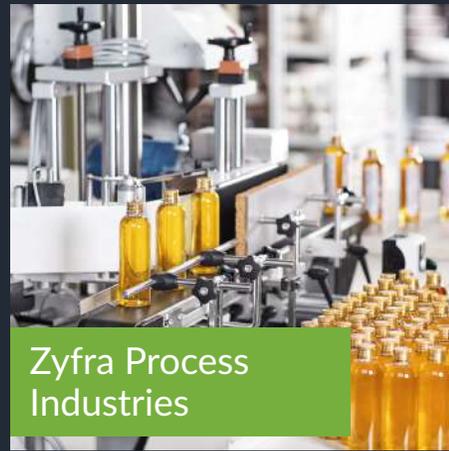
MEMBER OF INDUSTRIAL
INTERNET CONSORTIUM



TOP SULLPY CHAIN MANAGEMENT
Technology Companies In Europe
2020

Zyfra Divisions

Industrial Divisions



Innovation Divisions



Zyfra product portfolio covers all levels of digital enterprise IT-architecture – from device to autonomous robotized systems

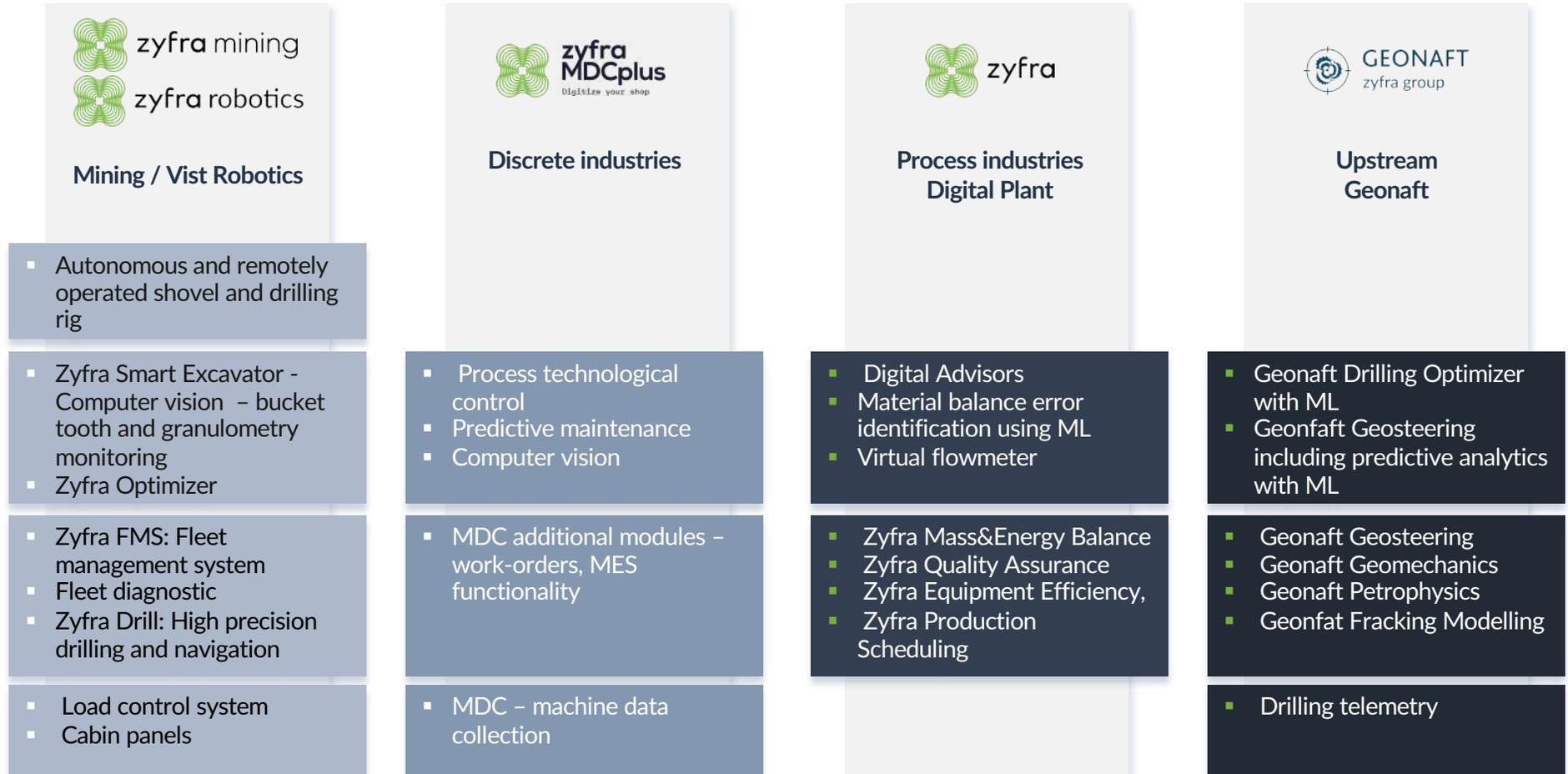
Digital enterprise: Architecture levels

Autonomous production:
Robots

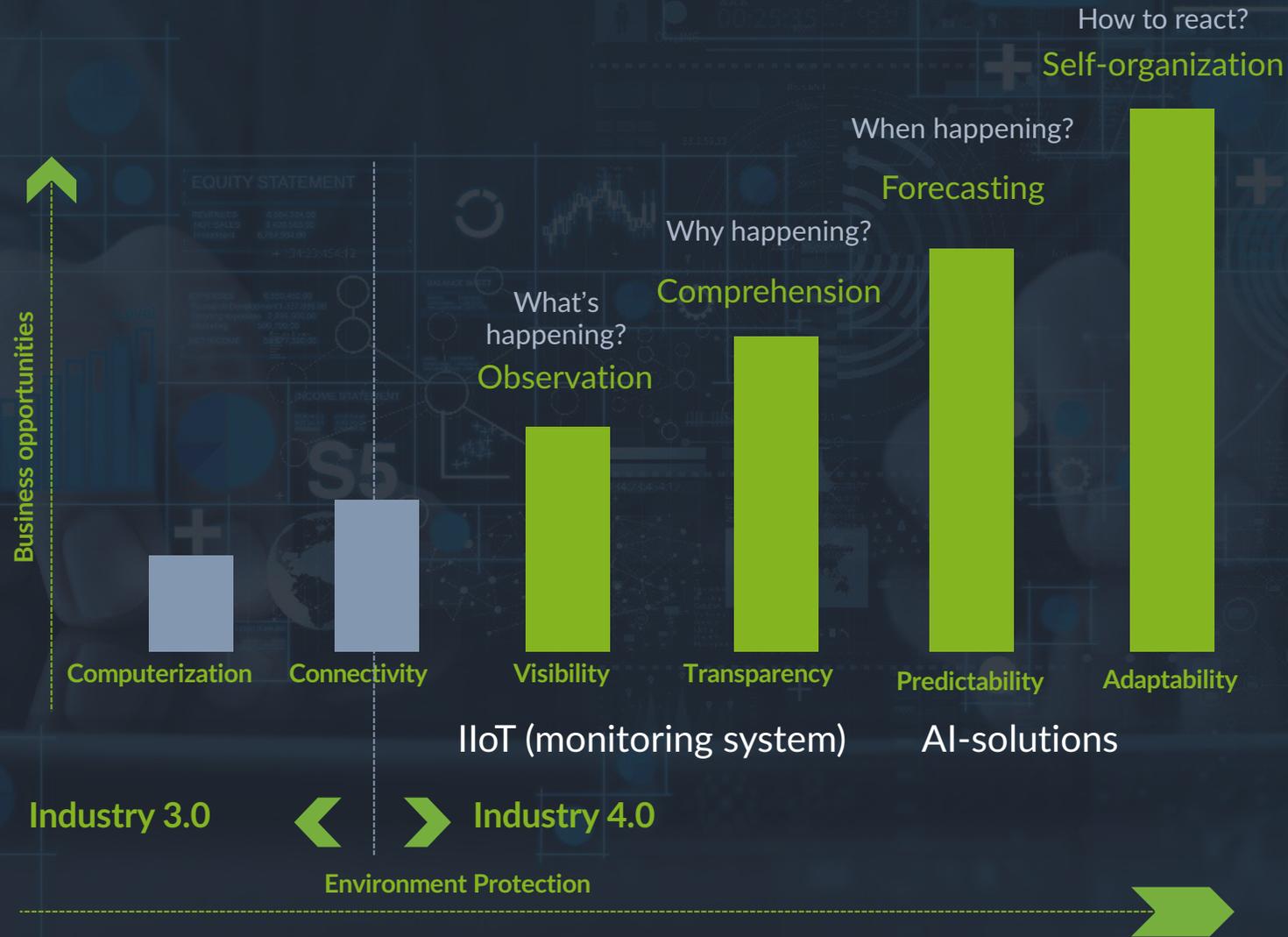
Production optimization:
AI (Zyfra AI)

Remote monitoring and operation:
Production automation

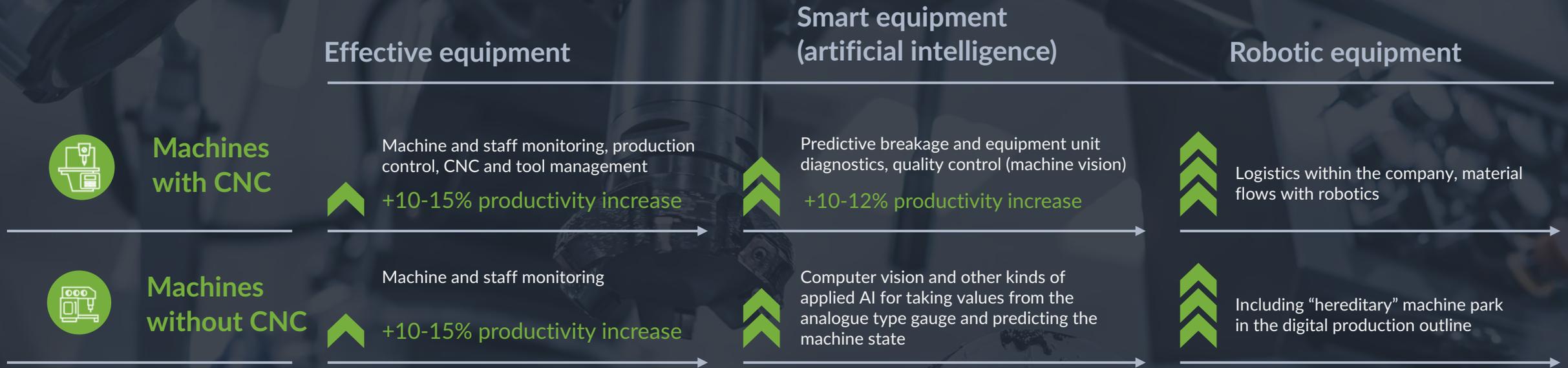
Data collection:
IIoT & Smart devices



There are a number of ways in which we can leverage AI and IIoT.



Engineering digitalization



Zyfra MDCplus

machine data monitoring for better solutions

Zyfra MDCplus designed to track equipment, operations, and personnel performance remotely, sending you real-time customizable and downloadable notifications and reports, to evaluate and increase OEE as well as cut down on costs. MDCplus is the ultimate production management upgrade

20+ countries
 France, Finland, Russia, Singapore, Malaysia Germany, India, Turkey

Product from the box
 Deployment within 1-2 months
ROI within 4-7 months

Learning center
 For clients, partners and employees

Why MDCplus?

- Connection to any machine
- All important metrics in 1 click: OEE, 100+ KPI's
- Different role scripts and system use cases
- Multifunctionality (6 modules + integration with AI-based solutions)
- EAM, ERP, MES , PDM/PLM, BI / AI integrations
- Automatic software updates included
- Unlimited number of workplaces

PRODUCTION EFFICIENCY GROW UP TO 20%

400+ enterprises
10 000+ machines connected

OPERATING RESULTS

- Maximum possible performance achievement
- Higher production quality
- Reduction in production costs
- Optimization of company maintenance
- Transparency of the production process
- Redistribution of investments as a result of the production process optimization



“MAGMA” LLC

Machine building enterprise “MAGMA” LLC is a modern production facility, which includes specialized production sections and produces complicated equipment. “MAGMA” LLC produces spare parts and custom-built equipment for metallurgical, mining and coke industry, sea and river ports, handling equipment.

Objectives of the monitoring system implementation:

- Higher production efficiency due to the order portfolio growth and expansion of the business geography
- Higher transparency of production business processes
- Detection of equipment downtime and record of the operating time

Location:

Ukraine, Mariupol

Number of machines connected:

36

Type of equipment connected:

Machines with CNC - NCT,
Fanuc, Heidenhain, Siemens



MDCplus Implementation Results

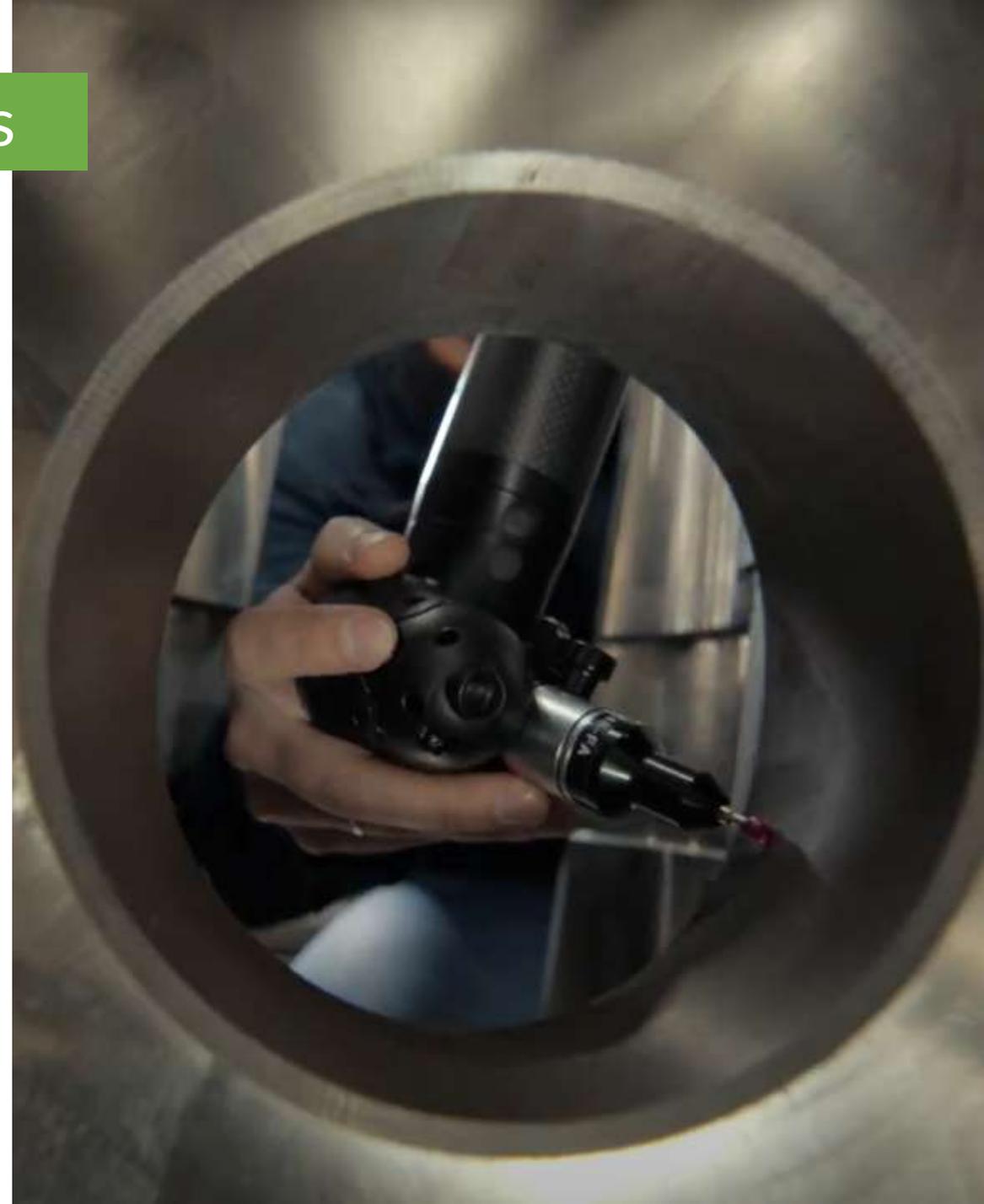
Effect during the COVID-19

During the COVID-19 pandemic, part of the workforce was supposed to remain at home in self-isolation. The goal was to organize the work of personnel without a loss in production efficiency, and to fulfil all contractual obligations on the timely delivery of finished products to the clients

- 1) The statistics collected by MDCplus for machines with similar characteristics were analyzed and the load was redistributed among them
- 2) Some of the machines with the lowest performance rates were unloaded completely

Result:

- The company managed to quarantine **25% of work and maintenance personnel with a backlog no higher than 8%**
- **50% of the management staff** could successfully monitor the operation of the equipment while at home





From April 2020, **the average increase** in the equipment load factor amounted to **15%**, the share of organizational downtime has been **decreased by 33%**. The system makes it possible to collect and analyze equipment operation statistics and to motivate staff to improve their performance rates

Project development

Next step: to integrate MDCplus with the existing ERP and MES systems. This will help:



to reduce the cost of machine hours in the near future, since all the work carried out on the machines will be identified and tied to specific calculations instead of being calculated in a simplified form as before



to send tasks to machines and receive feedback on manufactured products promptly, which will, in turn, ensure a fairly accurate picture of production for timely planning



Enhanced the Capacity Planning for Gear manufacturing company

Task

- Higher production efficiency due to the order portfolio growth and expansion of the business geography
- Higher transparency of production business processes
- Detection of equipment downtime and record of the operating time

Solution

- ✓ Connectivity with CNC, legacy machines; wide acceptance for heterogenous machines
- ✓ Easier capacity planning (as company is not in mass production, it produces basis on order to make)
- ✓ Organizing the storage and transfer of the NC program to the machines
- ✓ Machine tool available to produce more number of parts by increasing availability time for machines

Result

- ✓ 30% - availability time improved
- ✓ 27% - organizational downtime decrease

Machine connected:
122

Equipment type:
Machines with CNC - Fanuc, HAAS, Siemens, REISHAUER, PLC and Legacy machines, 10 pres lines

Zyfra MDCplus Calculates OEE with accordance to ISO22400

30%

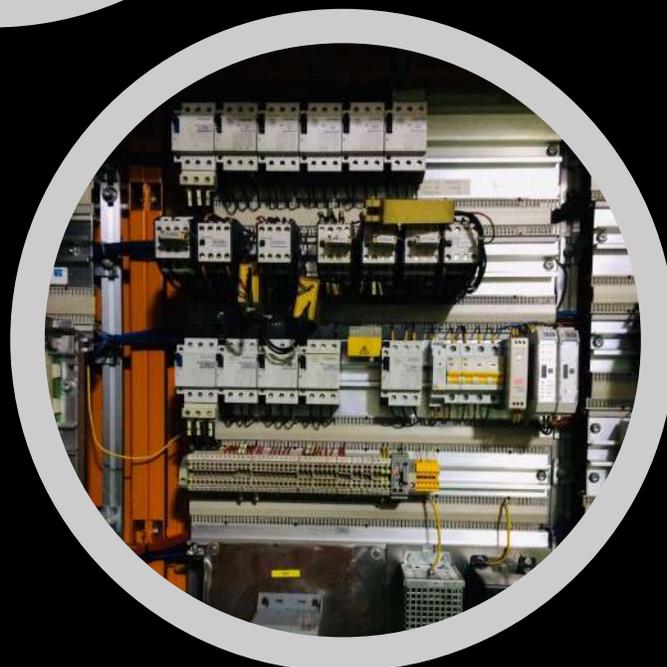
Availability Ratio increase

27%

Organizational downtime decrease

➤ Project complexity

- The main issue for customer before Zyfra was connecting heterogenous machines with unified platform to understand the effective load of each machines. The management could not effectively influence this situation due to the opacity of the production information model and capacity planning

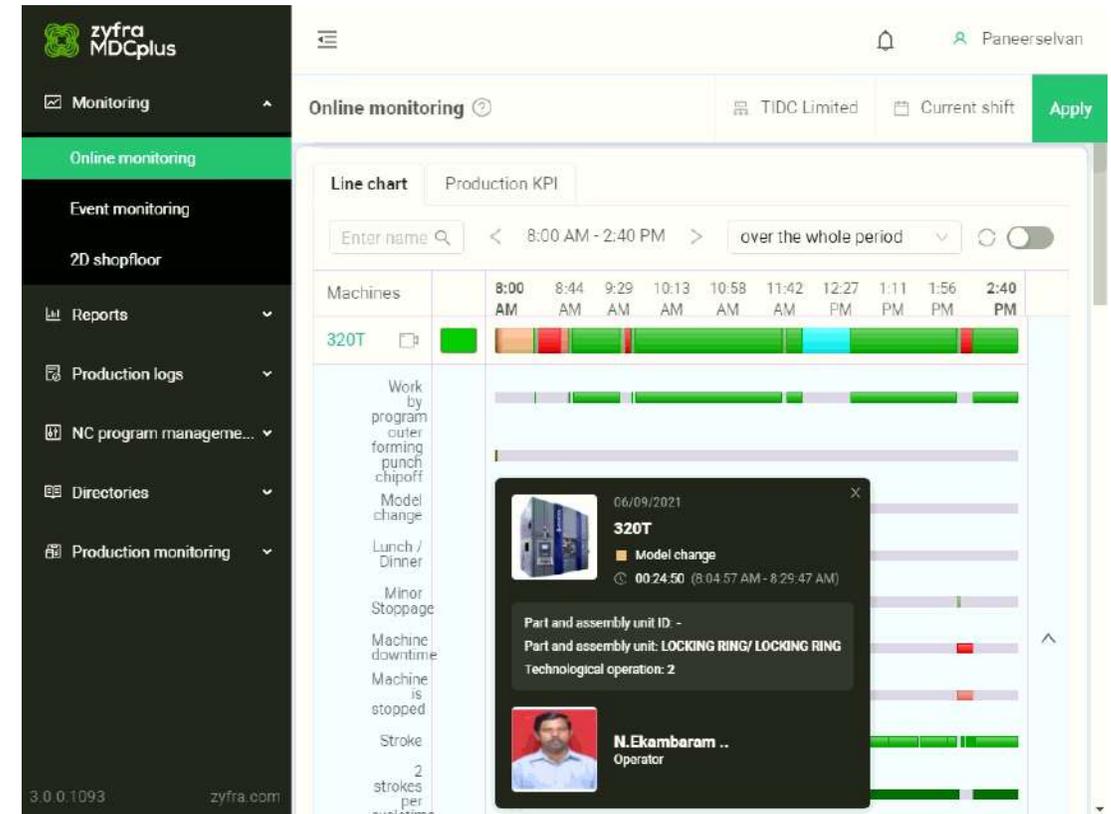
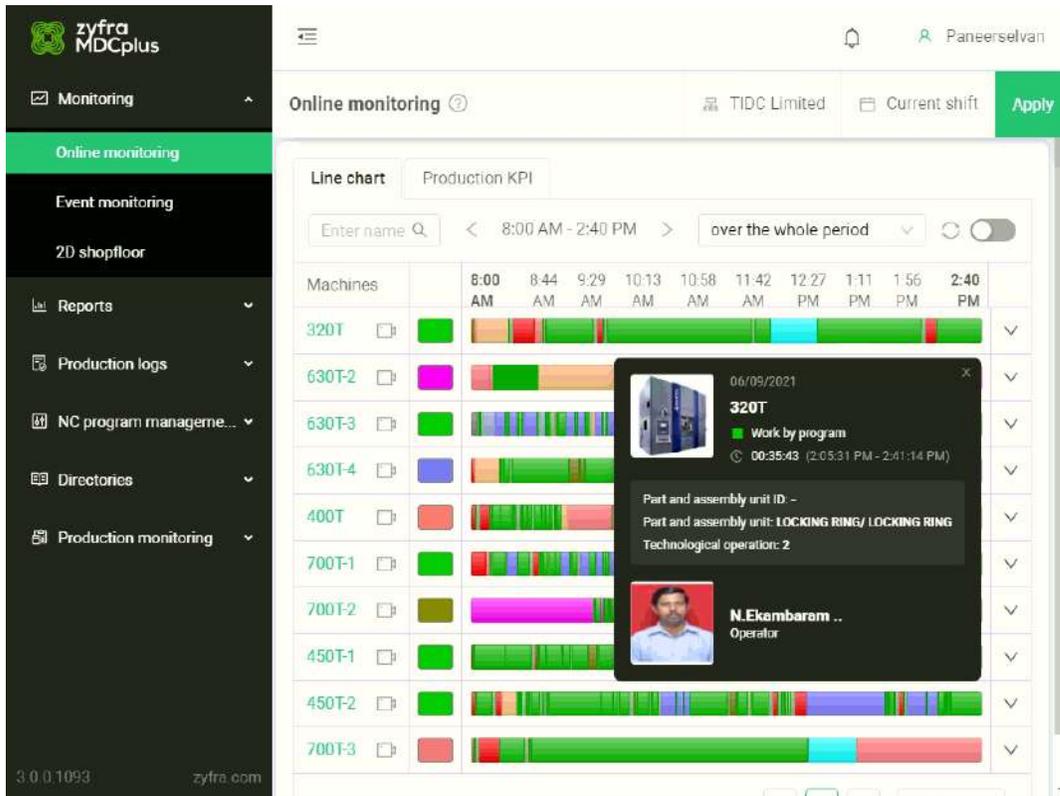


Shanthi Gears Green MDCplus implementation done in 2 phases, proved with approach for workshop real-time monitoring gives significant results

- Phase I: Connected 101 equipment's.
- Phase II: connected additional 21 CNC machines



System Interface



System Interface

zyfra MDCplus

Monitoring

Reports

Production logs

Part and assembly units pr...

Operator's work time tracki...

NC program managem...

Directories

Production monitoring

3.0.0.1093 zyfra.com

Part and assembly units production log

TIDC Limited All machines

All part and assembly units All specifications

06/09/2021 Apply

Production log

Add entry

Search

Operator (Produced / Defect)	Auto calculation	Master (Produced / Defect)	Appr.
7908 / 3	7772	7908 / 3	✓
0 / 0	1408	1412 / 22	✓
0 / 0	4152	4128 / 26	✓
0 / 0	1528	1555 / 0	✓
2480 / 0	2446	2480 / 0	✓
0 / 0	8316	8316 / 0	☐
0 / 0	2080	2104 / 4	✓
0 / 0	8834	8834 / 0	☐
0 / 0	5544	2893 / 6	✓
0 / 0	855	1740 / 20	✓

zyfra MDCplus

Monitoring

Reports

Production logs

Part and assembly units pr...

Operator's work time tracki...

NC program managem...

Directories

Production monitoring

3.0.0.1093 zyfra.com

Part and assembly units production log

TIDC Limited All machines

All part and assembly units All specifications

06/09/2021 Apply

Part and assembly units production log entries

Machine: 320T

Part and assembly unit: LOCKING RING

Specification: LOCKING RING

Operation: 2

Reporting time: 06/09/2021 7:36:56 AM

Operator registration: 06/09/2021 12:04:20 AM

Operation registration: 06/09/2021 12:05:14 AM

Operation selection Show production log

Date/time	Employee number	Operator	Number
06/09/2021 7:34:41 AM	59	SHANMUHA PRABU R	8908
06/09/2021 7:36:56 AM	59	SHANMUHA PRABU R	7908

< 1 >

MDCplus install base in Komax International



5 enterprises



5 countries



- MDCplus Install Base
- Manufacturing facilities



TSK develops and sells test systems and adaptation units for testing wire harnesses and further electrical-electronic assemblies and components



Exmore specializes in developing customer-specific solutions for automatic wire processing. Automotive, aerospace, consumer electronics



Kabatec is a global market leader in the field of taping technology systems. Core expertise involves the development and production of semi-automatic and fully automatic machines for processing adhesive and non-adhesive tapes



Artos Engineering, headquartered in Brookfield, Wisconsin, USA, is a leader in the automation of wire processing in North America. develops serial production machines for wire processing automation



Laselec develops laser-based solutions for stripping and marking wires as well as intelligent assembly boards for wire harness manufacturing. Aerospace market primary



The main focus of its activities is the sale of machines for wire processing, particularly for the automotive, electric systems, and electronics industries. 7 offices in Central Europe

WHY MDCplus

- Successful POC in Turkey in 2020 during COVID
- Connectivity to “Non NGC” Haas Machines
- SAP TPS System Integration
- Secured 3 orders in Q3-4 2020 (EU/AFRICA)
- TSK made reference to Komax Group board in Q1 2021
- First Order from Belgium (Exmore) in March 2021



30 Licenses

WHY MDCplus?



Connection to any machine



Easily integrated to any system



Cloud & on-premise version



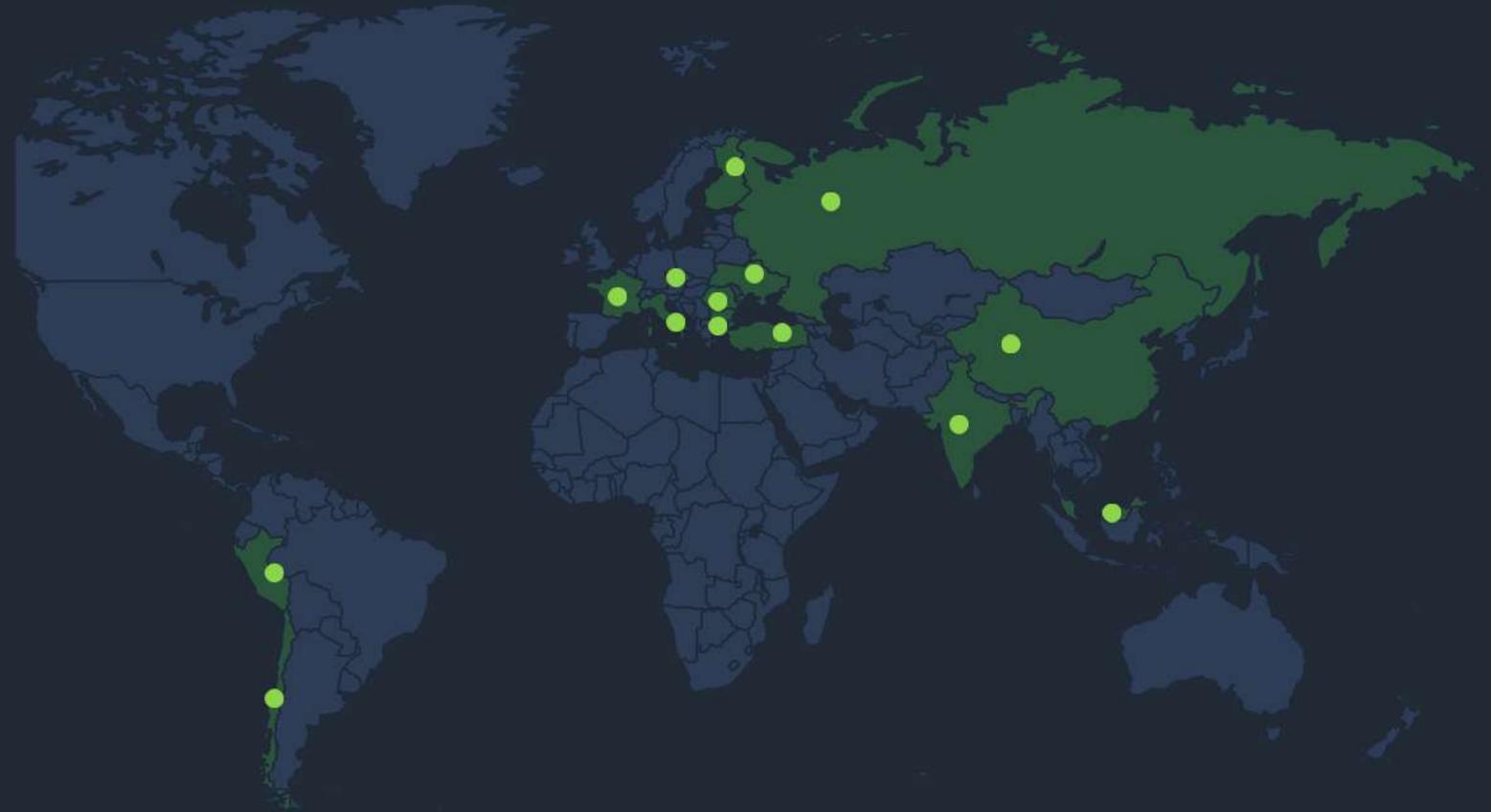
Functionality development and customization according to your goals and tasks



Data safety



Recommended by 330 enterprises in 25 countries





Helsinki, Finland

Moscow, Russia

Kazakhstan, Almaty

Casablanca, Morocco

Mumbai, India

Lima, Peru

Las Condes, Santiago,
Chile

Johannesburg,
South Africa

Helsinki, Finland

Pasilankatu 2
+358 9 4272 5025
hello@zyfra.com

 Write to us



zyfra.com