CERTICON

CZECH-LUXEMBOURGISH ROBOTICS DAY
May 14th 2019

Jaromir Tejkl

CERTICON AT GLANCE

IN ADDITION TO OWN PRODUCTS CERTICON PROVIDES SERVICES IN:

APPLIED RESEARCH

Our mission has always been and will continue to be bringing our own innovations supported by scientific research into use in various branches of industry. We also are very pleased to be working on very narrow issues that remain overlooked by commercial solutions. In these cases, we rely on our own applied research.

SOFTWARE & ELECTRONIC DESIGN, DEVELOPMENT & TESTING

Our teams provide the complete development cycle from feasibility study, the creation of specifications, analyses, and architecture design, to implementation, revision, software verification and integration testing. This include electronic hardware design, construction of a prototype and introduction of mass-market production.

CERTICON OFFERS PRODUCTS IN FOLLOWING AREAS

- Production planning and rescheduling
- Real time video analysis & offline video analysis
- Telemedicine

360+ specialists

Turnover 2017
22 mil. EUR

Applied Research Department

CERTICON'S STRATEGIC TECHNOLOGY AREAS

INDUSTRY

- Operational Scheduling
- Production Planning
- Process Optimization
- Predictive Diagnostics
- Multi-agent Systems
- Self-organizing Production

SMART CITIES

- Online Video Analysis
- Smart Surveillance
- Behavioral Analysis
- Detection of Anomalies
- Video Synopsis

HEALTHCARE

- Electronic Prescriptions
- Disease Management
- Remote Patient Care
- Treatment Governance
- Electronic Ordering
- Bio-signal Evaluation

TELCO

- Increasing Mobile transmission speed
- Info-entertainment Platform for Vehicles

AUTOMOTIVE

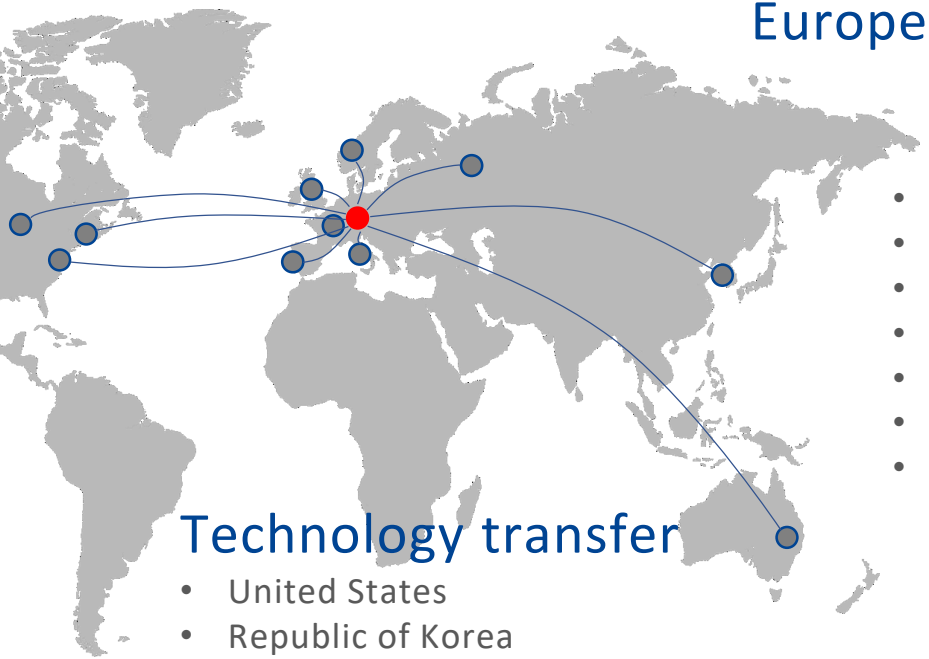
- Vehicle Diagnostics
- Telematic
- Vehicle Communication

CERTICON'S REACH

Located in the heart of Europe, CertiCon monitors the pulse of the world to provide the solutions for complex technology challenges.

80% of services exported

- United States
- Great Britain
- Germany
- Austria
- Netherlands
- Australia



European applied research

- Austria
- Germany
- Netherlands
- Portugal
- Spain
- Italy
- Russia

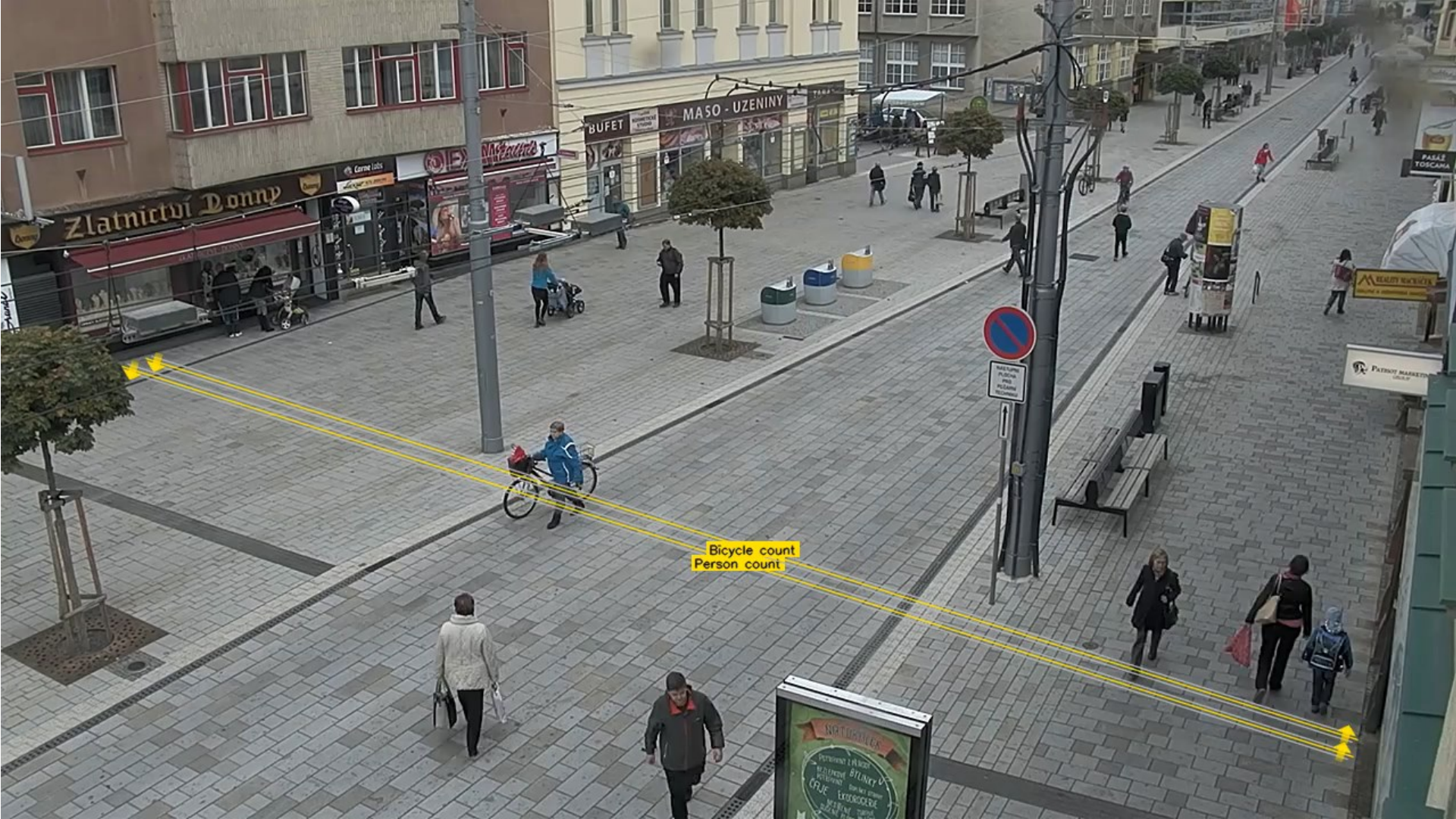
Technology transfer

- United States
- Republic of Korea

SMART CITIES – Video analytic software (CCV)

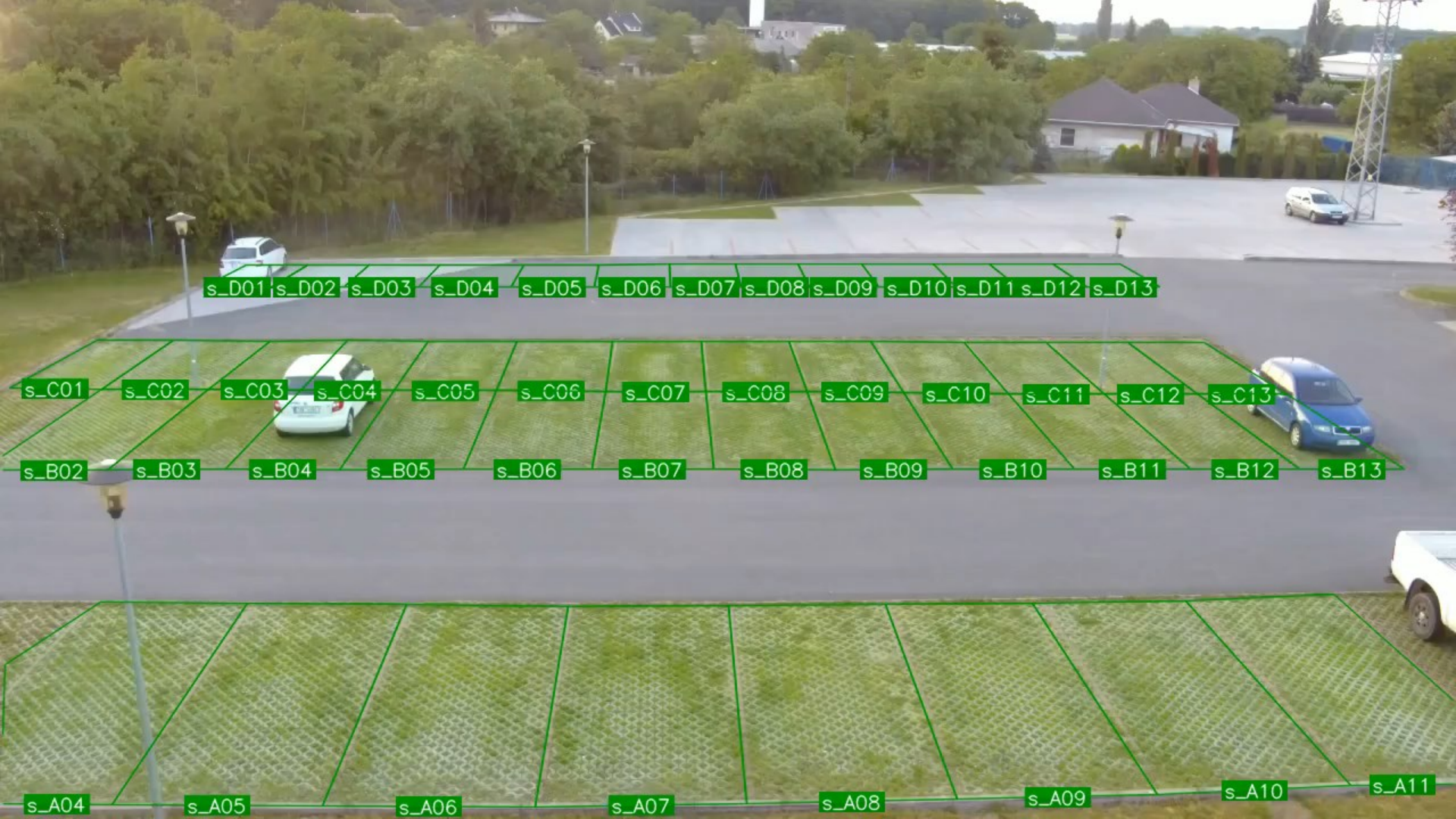
CerticonVIS

Software, to **analyze** image from the camera system in **real time** and/or **from record** (forensic analysis). The core of the CCV is sophisticated **computer vision** software. CCV processes video streams from cameras, **recognizes** various situation in the scene and in case of suspicious behavior immediately **informs** the user.


Zlatnictví Donny
BUFET
MASO - UZENINY
Bicycle count
Person count

2009/06/08 Mon 10:31:28
720P
Wrongway zone
Right turn
Vehicle counter

tracker
ZONE 1
ZONE TRESPASSING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SMART CITIES – Video analytic software (CCV)

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Objects detection and recognition

Detection of suspicious intrusion

People's behavior analysis

Traffic situation analysis

Detection of crime and accidents

Detection of camera abuse

Statistics and object counting

Objects anonymizing

Merging events from various records

SMART CITIES – Public safety (video recording)

miniDVR VC2-A

New record

Date and time of start	
Date and time of stop	
Type of action	Record always
Sound	Yes

Save

Schedule

Export Import

ID	Date and time of start	Date and time of stop	Type of action	Sound	
1	15/10/2018 13:18	15/10/2018 13:19	always	Yes	Delete
2	15/10/2018 13:22	15/10/2018 13:23	always	Yes	Delete
3	15/10/2018 13:29	15/10/2018 13:39	always	Yes	Delete
4	15/10/2018 14:00	15/10/2018 14:01	always	Yes	Delete
5	15/10/2018 14:04	15/10/2018 14:05	always	Yes	Delete

VC2-A (Advanced) is a miniature recorder with dimensions 32x28x25 mm, that can be configured using calendar events. It supports power-saving mode that allows operation from a conventional 5V power bank for several months. Internet connection and web interface are provided by Linux computer with real-time clock with backup battery.

HEALTHCARE - Telemedicine

We have developed an commercial product for remote patient/senior care – **Trusted Patient Coach**, officially launched in 2015.

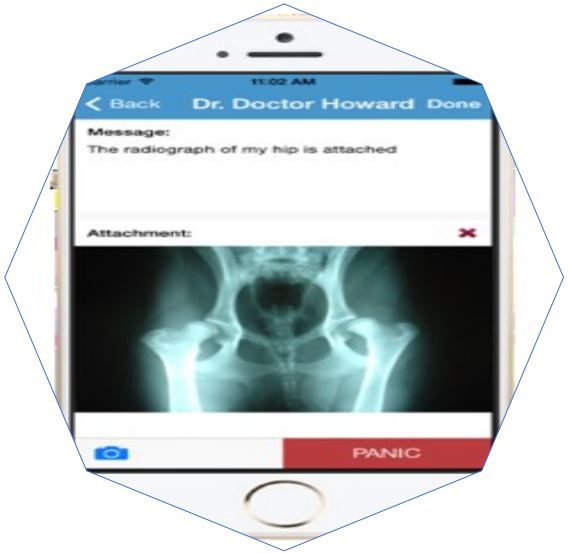
2x

This is how much we reduced the readmission rate of ortho patients

PRODUCT CHARACTERISTICS:

- Communication link between patient-doctor
- Remote care and care-plan advisory
- Tailored care-plans and measurement plans
- Immediate notifications due to in-compliance
- Portal Information system and mobile app

Visit: trustedpatientcoach.com



INDUSTRY - Production planning and rescheduling

EPIQA (Smart Scheduler)

Effective Planner with Intelligent Quality Accuracy

As a result of a European applied research project, CertiCon introduced the smart operational scheduler EPIQA for complex production lines management.

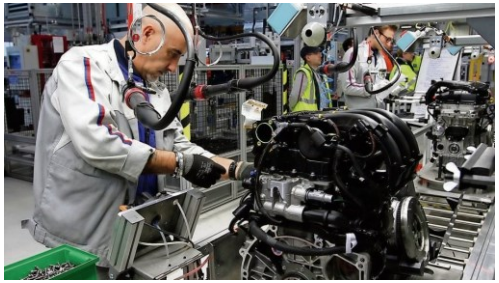
15%

This is how much we reduced cost of production ramp-up periods.

PRODUCT CHARACTERISTICS:

- System for dynamic re-scheduling of production in real-time
- ORIGINALLY for Airbus Industries - A350 SERIES production
- Massive performance with adaptive multi-agent technology
- Especially successful in production ramp-up scheduling
- Mitigates the risk of production stoppage

INDUSTRY - Predictive maintenance

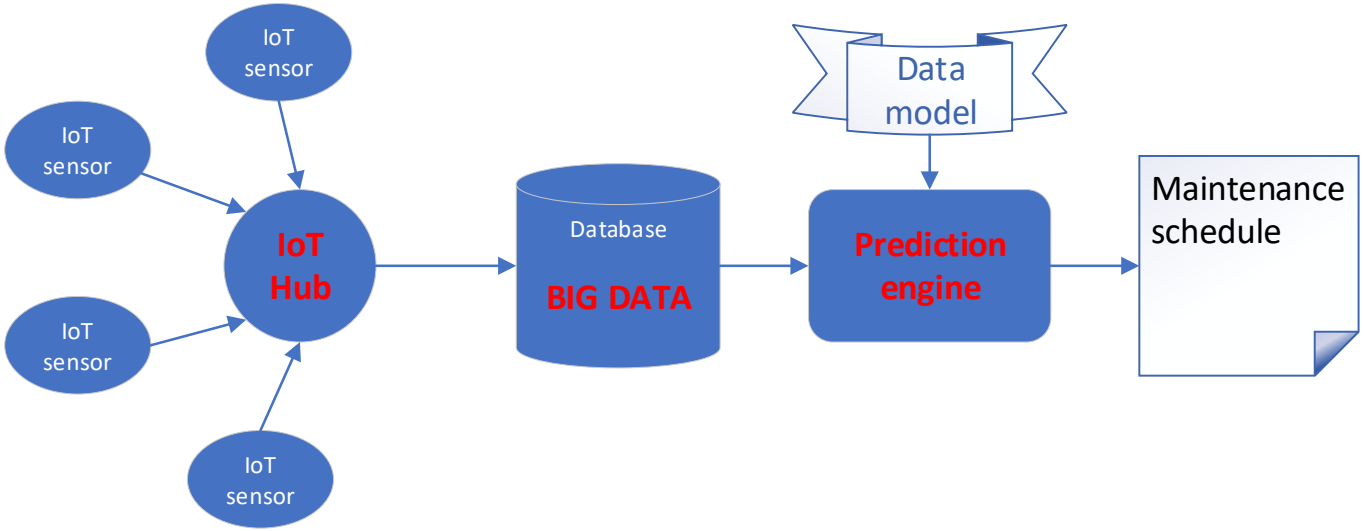


The main purpose is to prevent accidental failures causing unplanned shutdown of the production line.

Maintenance should only take place at regular intervals. Predictive software helps to determine parts of the production line to be exchanged or repaired at each interval.

The purpose is to shorten the total downtime to optimize maintenance costs.

INDUSTRY - Predictive maintenance

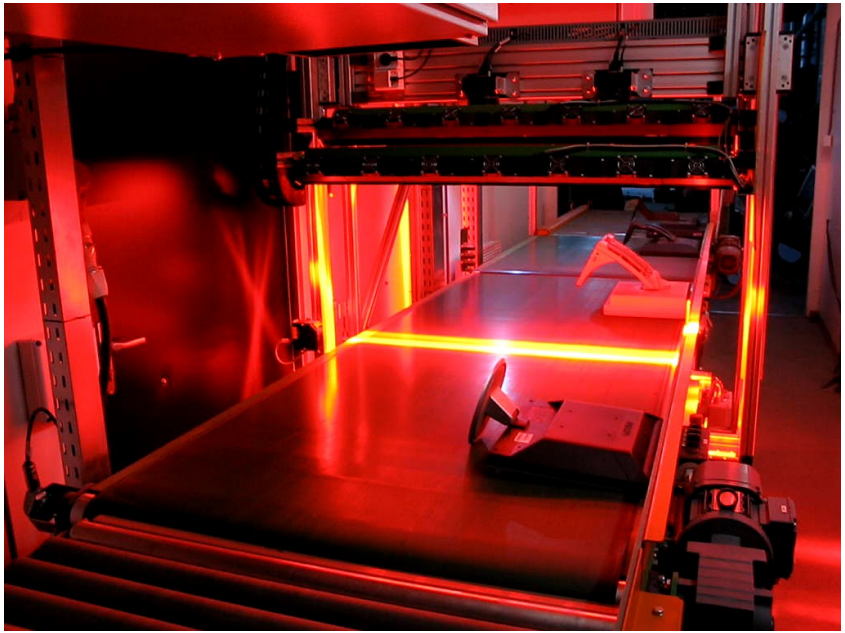


- Network of IoT sensors
- Data from sensors for long time intervals

- Data model of the entire production line
- Prediction engine
- Maintenance schedule based on fault prediction

INDUSTRY – Innovations for waste recycling

CertiCon reduced the manual error rate of electro waste sorting by developing an automated identification line for the further disassembly of electronics.



- Fully automatized line for electro–waste identification
- Identification of manufacturer’s logo and product model
- Measurements and 3D modelling
- Line and HW components control (PLC, camera, sensors)
- Image processing and Computer vision solution

CERTICON'S KEY REFERENCES

THANK YOU FOR YOUR ATTENTION

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