

# Company Presentation

## Track Machines Connected

We make Digitalization easy.

# We ♥ Railways



... already crazy about trains  
as a child

The railway-  
dedicated IT &  
Software Expert

Founded in 2019  
with today 100+  
employees

Headquarters in  
Linz, sites in Austria,  
India and the USA

Cyber Security –  
ISO 27001 certified

Products are tested  
on real machines  
and tracks

Member of the  
Digital Railway  
Solution Alliance

## Machine

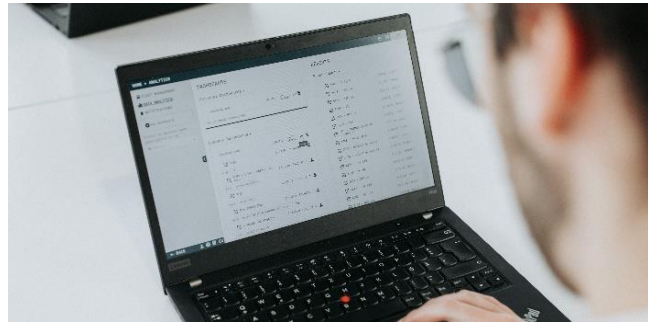


ASSISTANCE SYSTEMS  
FOR TRACK MACHINES

Machine Manufacturer

We make digitization easy for you. Our solutions turn the track machines you manufacture into highly efficient machines that give you a competitive edge.

## Fleet



SYSTEMS FOR TRACK AND  
FLEET MONITORING

Fleet & Tool Owner

Keep an eye on the condition of your track infrastructure and maintenance machines with our solutions. This allows for improved operation and maintenance planning, as well as reduced costs.

## Infrastructure



DIGITAL SYSTEMS  
FOR TRACK SURVEYING

Infrastructure Manager

We automate track surveying so that you can work more efficiently, precisely and above all, safely. We make track measurement possible, without an impact on operations.

tmOS  
one platform  
that covers it all

Machine

Fleet

Infrastructure

... yes, we really work on these machines.



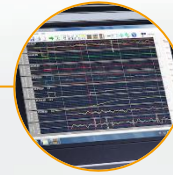
# Our solutions ...

## Machine

### Products



Automatic Guidance Computer  
(**tmAGC**) the gem of track  
geometry control



Data Recording Processor  
(**tmDRP**) detailed, rail-specific  
work reports



Tamping Assistant (**tmA2**)  
real-time, AI-based assistance  
system



### Benefits

**Revolutionize track construction and maintenance with us**

Proven, installed base in 109 countries

Easy, high-quality, consistent tamping

Standard protocols

Staff training by AI

Resource-efficient track maintenance

# Our solutions ...

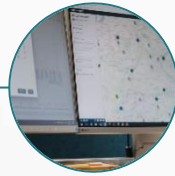


## Fleet

### Products



Machine Data Connector (**tmMDC**) essential railway-dedicated edge computing



Machine Condition Observer (**tmMCO**) intuitive web-based platform for fleet management



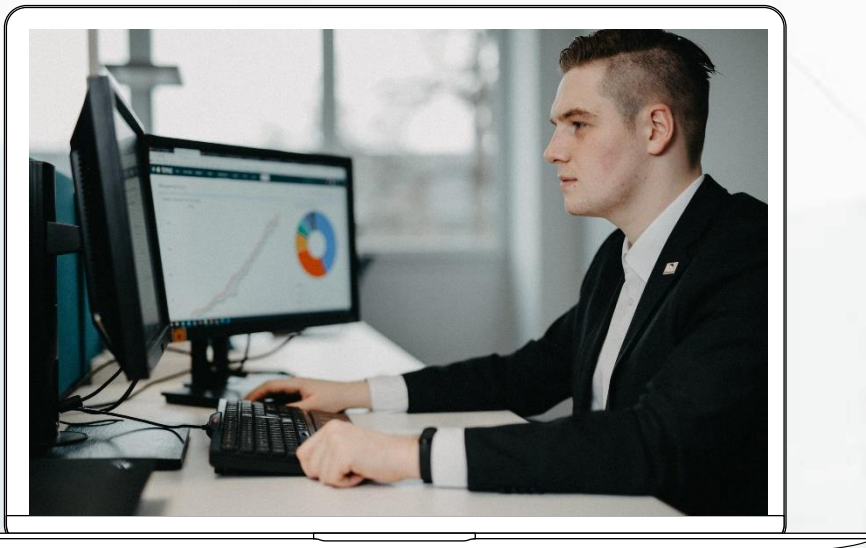
Maintenance Module (**tmM3**) compliance to intervals and check-lists for maintenance



Remote Assistance enabling secure VPN access to machines



Analytics as a Service Dashboards and Reports designed for you enabling the best machine usage



### Benefits

#### Entering a new digital era of infrastructure management

Machines and customer-related reports

Overview of operating times & utilization of the fleet

Long-term statistics for predictive maintenance

Early detection of problems: delays, temperature, location, etc.

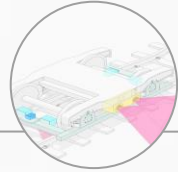
Locate your machines in real-time

# Our solutions ...



## Infrastructure

### Products



Track Geometry Measurement System (**PosTG**) zero-speed enabled relative track geometry



Referenced Track Geometry (**tmRTG**) superfast measurement with no more stop and go



Absolute Track Geometry (**tmATG**) High-precision geodetic track axis as a Service



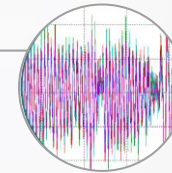
Mobile Mapping (**tmENV Digital Twin**) High-precision point clouds and photos as a Service



Digital Environment Profile (**tmENV**) digital measurement of the track superstructure



Multi-Camera Video Recording (**tmVIEW**) from Driver's View to Tamping Photo Documentation



Rail Corrugation (**tmRCM**) high-precision surface measurement



Onboard Synchronization (**tmSYNC**) time and location for all onboard systems



### Benefits

- Entering a new digital era of infrastructure management
- Shorten maintenance windows
- Increase precision in track surveying
- Improving safety
- Resource-efficient track maintenance

# Our solutions ...

tmOS

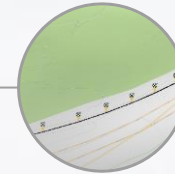
Machine

Fleet

Infrastructure



**tmOS Onboard**  
central track machine  
management hub



**tmOS Offboard**  
all-encompassing track  
data marketplace



**Track Database (tmTDB)**  
manage railway  
infrastructure topology



## Benefits

Data Integrity between tmOS on- / offboard environments

Simple Access for all staff from anywhere

Basis for educated, smart infrastructure management decisions

Enables transparent end-to-end track maintenance processes

Allows to combine all railway superstructure components, from Topology, Geo Editor to Measurement data base

Open platform for all railway infrastructure matter experts of each part of the railway superstructure from ballast underground to catenary wire



# ... resulting in a fully closed Loop



DATA SYNCHRONIZATION



DATA SYNCHRONIZATION



DATA SYNCHRONIZATION



## Pre-Measurement MEASUREMENT CARS, TROLLEYS, FLAT WAGONS

1. Central start & stop
2. Capture & process
3. Live visualization
4. Upload to backoffice



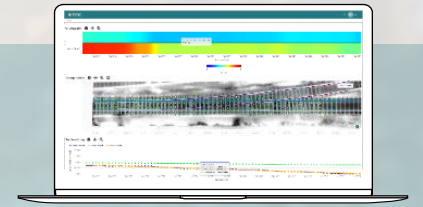
## Data Analytics & Work Preparation BACKOFFICE

1. Visualize
2. Analyze & decide
3. Edit
4. Create work order
5. Download to machine



## Work Execution & Post-Measurement TRACK WORK MACHINES

1. Receive work order
2. Calculate
3. Execute
4. Report
5. Upload to backoffice



## Transparent Documentation BACKOFFICE

1. Visualize
2. Store
3. Inform ERP

# Your data is protected

We are ISO 27001 certified



We're on track to make our solutions compliant to

## CLC / TS 50701 Railway Application Cybersecurity

# Artificial Intelligence



We've implemented Machine Learning Operations (MLOps)

We as tmc employ AI in all our products to compensate growing data size and complexity

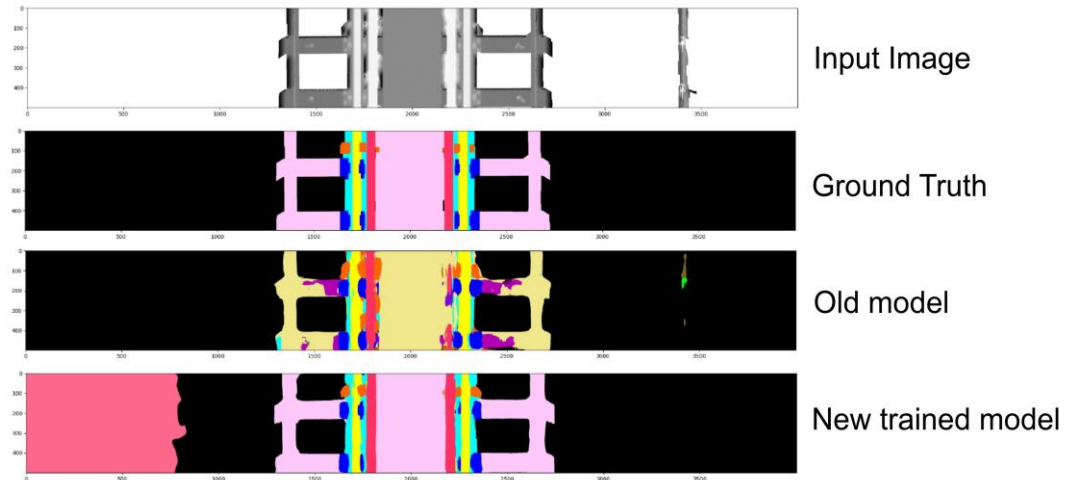
We would like to show you an example of our Tamping Assistant

AI for our Tamping Assistant (tmA2)

- Able to detect 55+ classes of objects from around the world
- Improving reliability while supporting more working units with AI

## Classes Colortable

Background	Sensor	CableLookalikes	CrossingBackupTransponder
Ballast	Cable	SleeperAnchor	ProximitySwitch
TieWood	WingRail	RailFootObject	ExpansionJoint
TieConcrete	WheelGuide	ExpansionJointStabilizer	DetectionMat
TieSteel	SwitchBladeSpacer	UnknownObject	DistanceRod
Rail	ButtStrap	JointSleeper	RailLubricator
Vegetation	CableDuct	ProtectiveSleeper	GuardRail
Mounting	SlidingPlate	HalfLengthSleeper	Crossing
Hidden	Screw	CrossingPipe	Bridge
Other	SwitchBladeBearing	GaugeTie	Platform
SwitchBlade	SwitchEngine	Ats5n	Walkway
SwitchBladeTip	Frog	AtsP14	DifferentRailConnectionPoint
SwitchRod	LeadWire	AtsP14	
FrogFrame	DoubleSlipSwitch	AtsPN	
Barrier	SwitchEngineMount	AtsP4n	
		RailBond	



# Flagship projects

## Machine

**tmA2** – Smart tamping technology around the world  
Major markets: Europe, Japan, USA

**8 deployments contracted**

## Fleet

**tmMDC & tmMCO** – Connected machines  
Major markets: Europe, India, Japan, USA

**1000+ deployments contracted**

## Infrastructure

**PosTG** – Track Geometry excellence  
Major markets: any region in the world

**130+ deployments contracted**

**tmATG** – Absolute Track Geometry as a Service  
Major markets: Austria, Germany

**1.260 kilometers contracted**

**tmENV Digital Twin** – A really usable digital twin  
Major markets: Germany

**240 kilometers contracted**

**tmRCM** – High-performance Rail Corrugation Measurement  
Major markets: Europe, South America

**5 deployments contracted**

... and now let's roll the credits.

# This is us



## If you want to work with us



Jochen Nowotny, CEO  
phone +43 732 931659



[jochen.nowotny@tmconnected.com](mailto:jochen.nowotny@tmconnected.com)

## If you want to join us



Carolin Angermayr  
phone +43 732 931659



[career@tmconnected.com](mailto:career@tmconnected.com)  
**Career tmc**

... or follow us

**tmconnected**



# ... in both cases, the great 8 are our moral code



## Hands-on mentality

The doers own the world. That is why we approach our projects with a zest for action and creative joy. There are no half measures with us. Our work ethic is based on consistency, pragmatism and common sense.



## Team spirit

The success of our company relies on teamwork. We create solutions that unite the ideas of many. To achieve this, we work together, support each other and thus create a space to feel good and grow.



## Mutual respect

We are diverse in every aspect: our life stories, our family backgrounds, our education and our cultures. We are proud to be international and build a strong bridge between Austria and the rest of the world.



## Honesty

We welcome honest communication as it gets us faster to where we want to be. We are always looking to learn from mistakes and solve challenges, not to find scapegoats.



## Trust

Because we know that we are all working towards the same goal, it is easy for us to trust each other. When we delegate tasks to colleagues, we can be sure that they are well taken care of.



## Performance

We are not satisfied with average results. We strive for excellence. We challenge ourselves and our peers to reach true client satisfaction.



## Transparency

We share information, tips and best practices, ask for help and give support when needed. We live an open error culture that allows us to grow.



## Integrity

We keep the promises we make to our clients. Our actions are guided by our values and principles. We remain true to ourselves because we believe that integrity is the basis of trust.



We make  
digitalization of  
railway track  
maintenance  
easy.  
Power to the  
railways.