

coilDNA
The IoM company

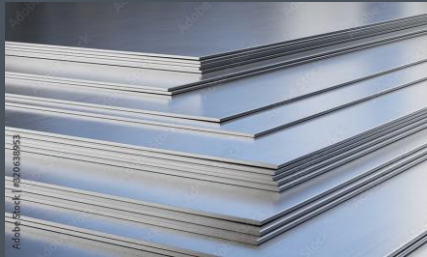
coilDNA

Door Opener to the Internet of Metals

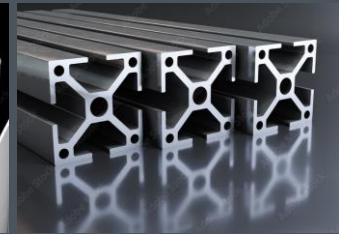
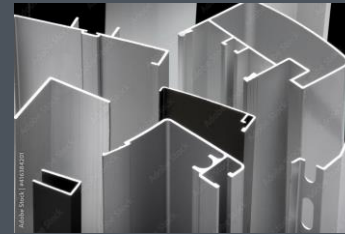
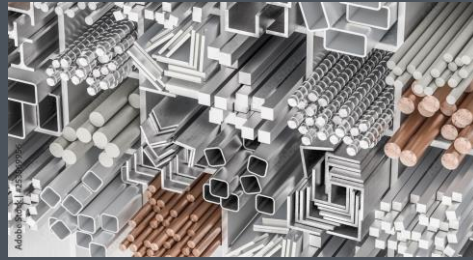
Challenges

Many different industries have the same challenges

Sheet, strip, foil, plate



Hot / cold rolled, roll formed



Tubes, hoses, wires

Extrusions

Challenges

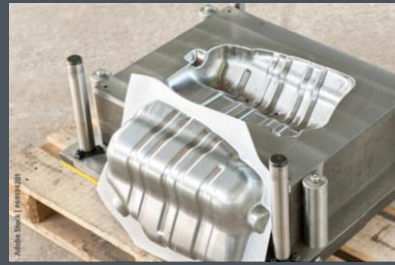
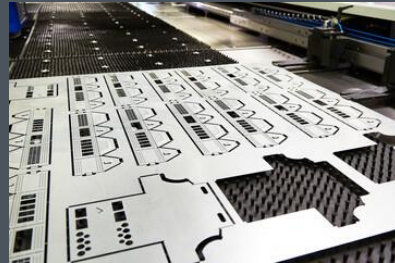
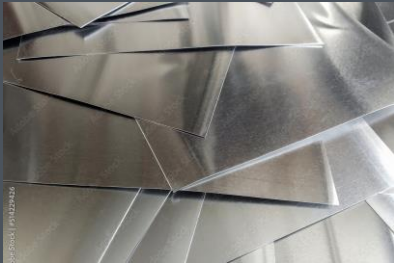
Many different industries have the same challenges



Semi-finished products are further processed and change their shape in this process - coils become sheets, strips, stamped parts, pressed parts, cut parts

Challenges

Many different industries have the same challenges



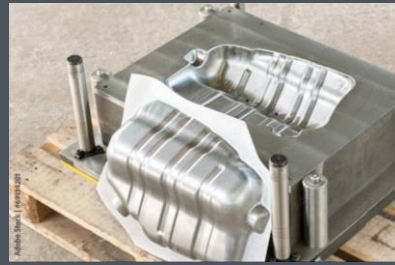
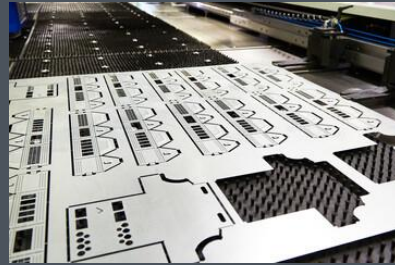
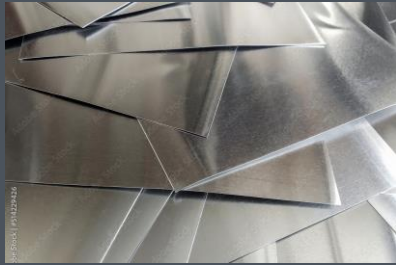
The reference to the initial product and therefore the identity of a single part is usually lost in processing

Challenges

Many different industries have the same challenges

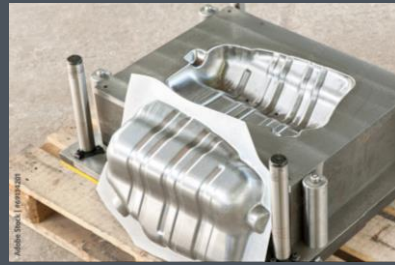
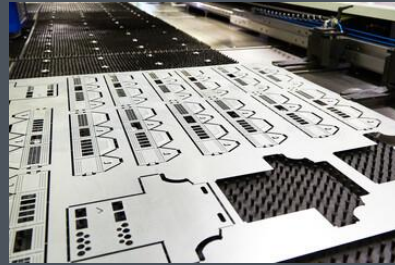
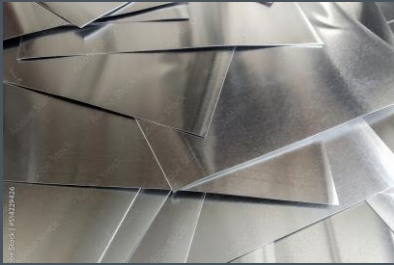


Sustainability data cannot be assigned to the individual product despite a „green“ parent product

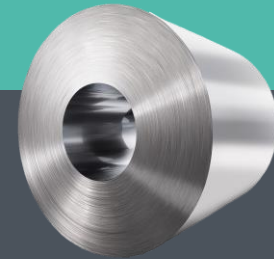


Challenges

Many different industries have the same challenges

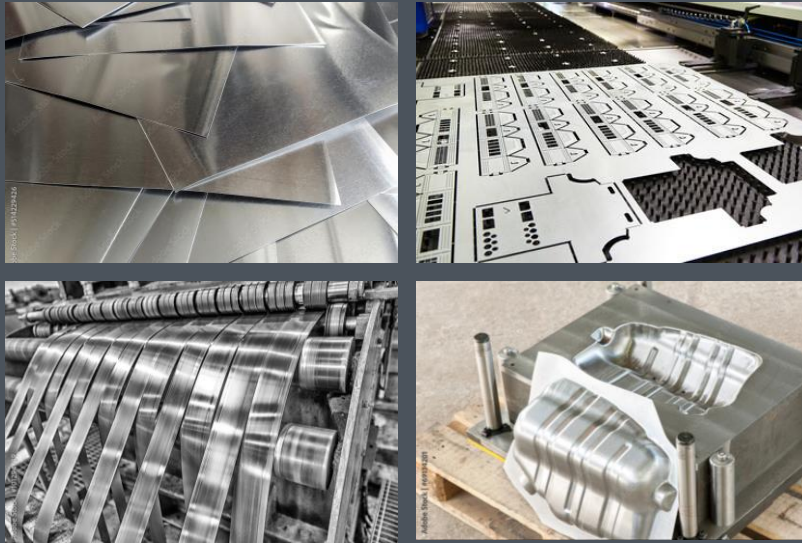


Processed parts have no digital twins, coils do

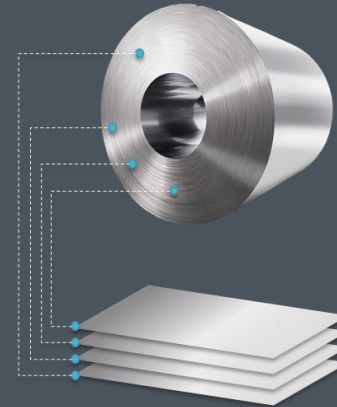


Challenges

Many different industries have the same challenges

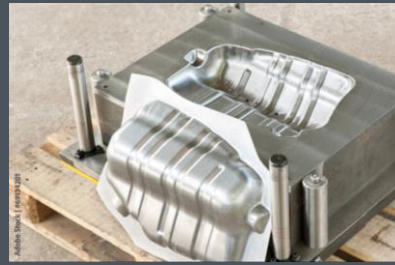
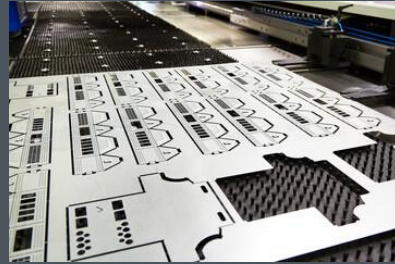
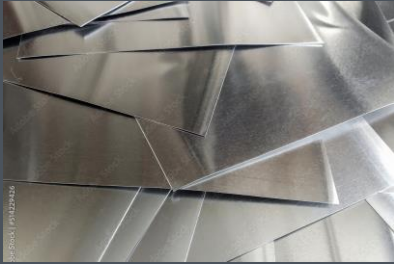


The position of item within parent material cannot be determined



Challenges

Many different industries have the same challenges

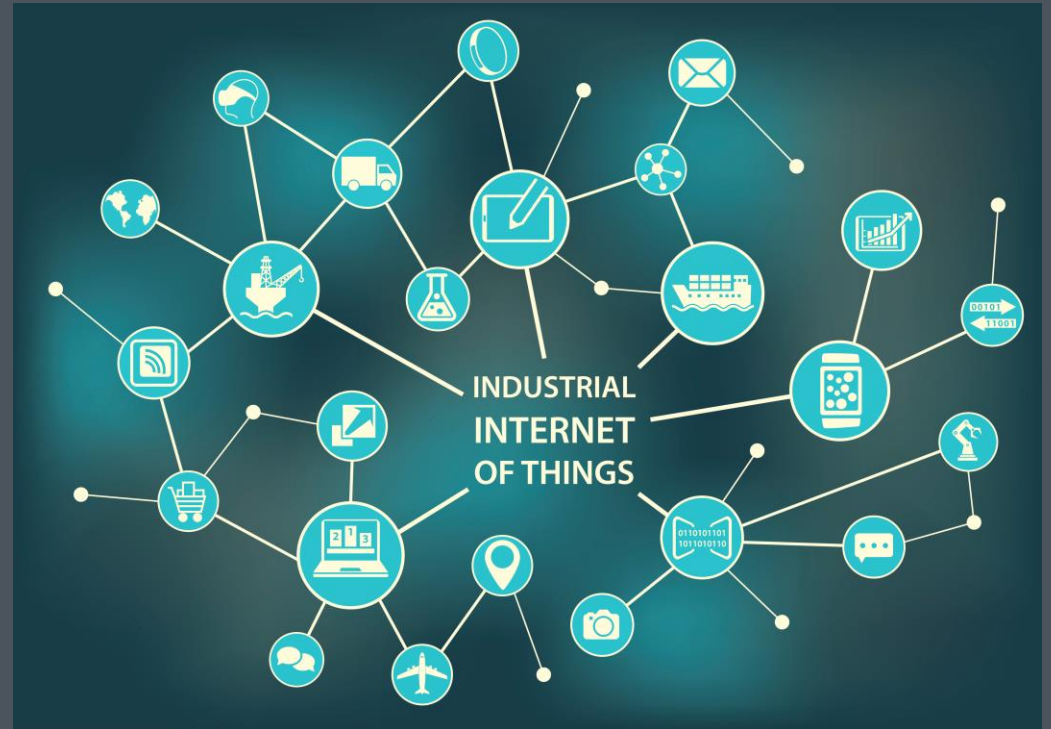


The IoM – Internet of Material – technology overcomes all these challenges

Vision of coiDNA

Basic principles of IoT or industrial IoT

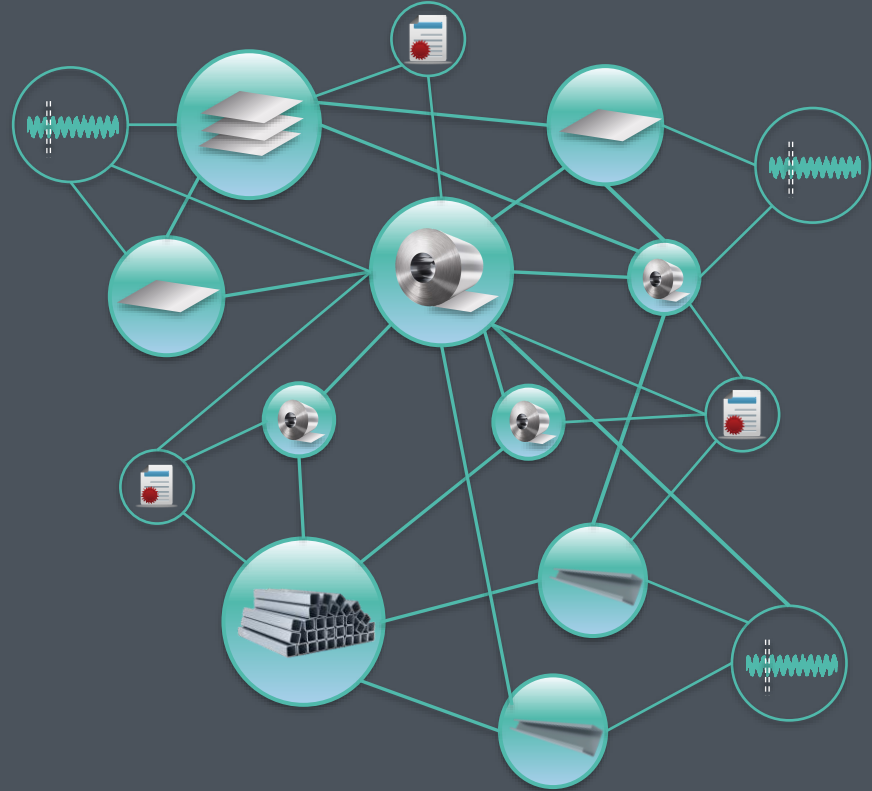
- identity for devices
- connect devices to the internet
- connect devices with data
- communication between humans, devices and applications



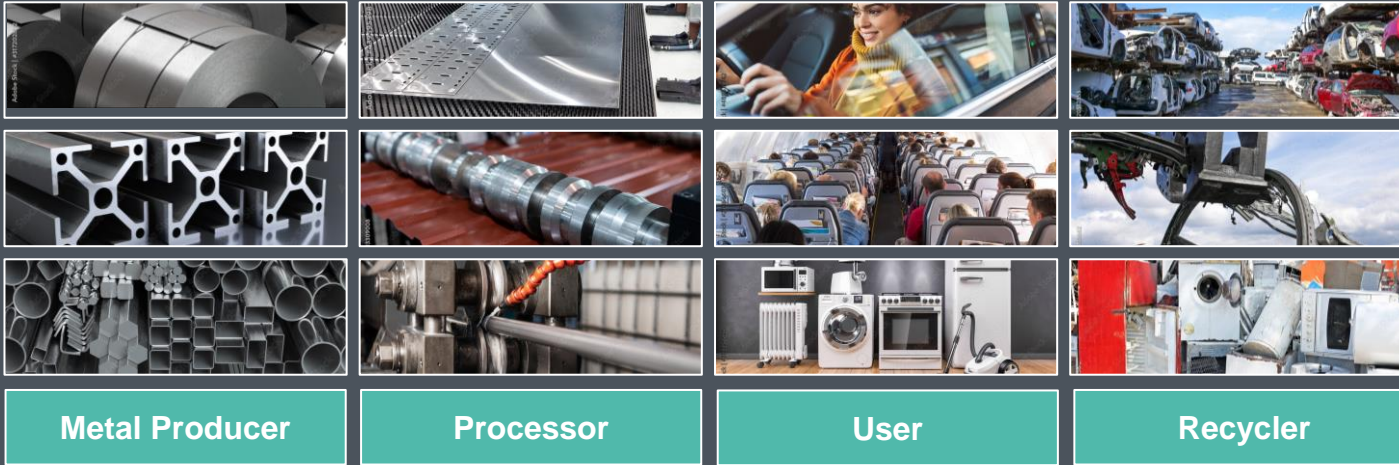
Vision von coilDNA

IoM extension of IoT to the metals world

- identity for material
- connect material to the internet
- connect material to data
- Communication from material to applications and humans



Vision: Data transparency along the value chain



Data / certificates from production, quality and sustainability assigned to product

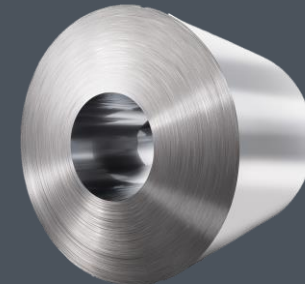
c@iIDNA
The IoM company

c@iIDNA
The IoM company

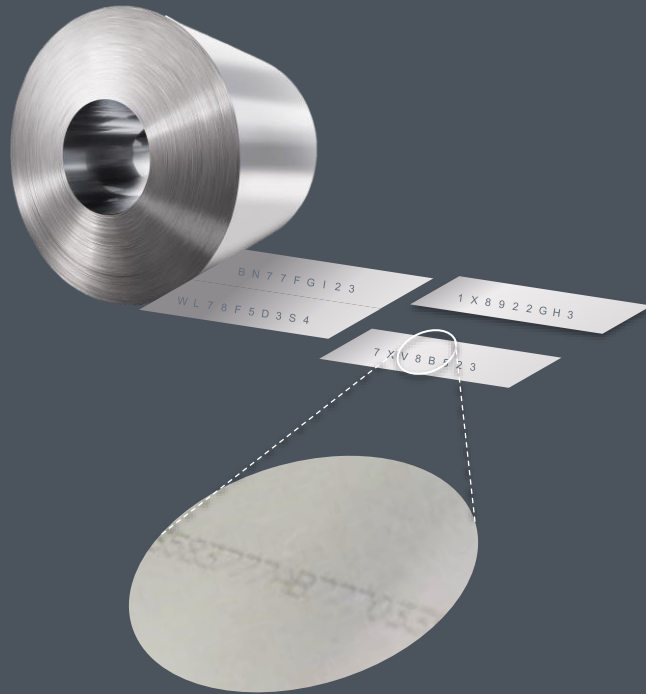
Ideas - Analogy

coilDNA vs. Human DNA Sequencing

- Each human cell contains genetic information
- The entire DNA can be reconstructed from fragments
- (DNA-Sequencing)
- Each individual component contains the entire data of the master-coil (manufacturer,...)
- coilDNA code is structured similarly to the genetic information coding (C, T, A, G)



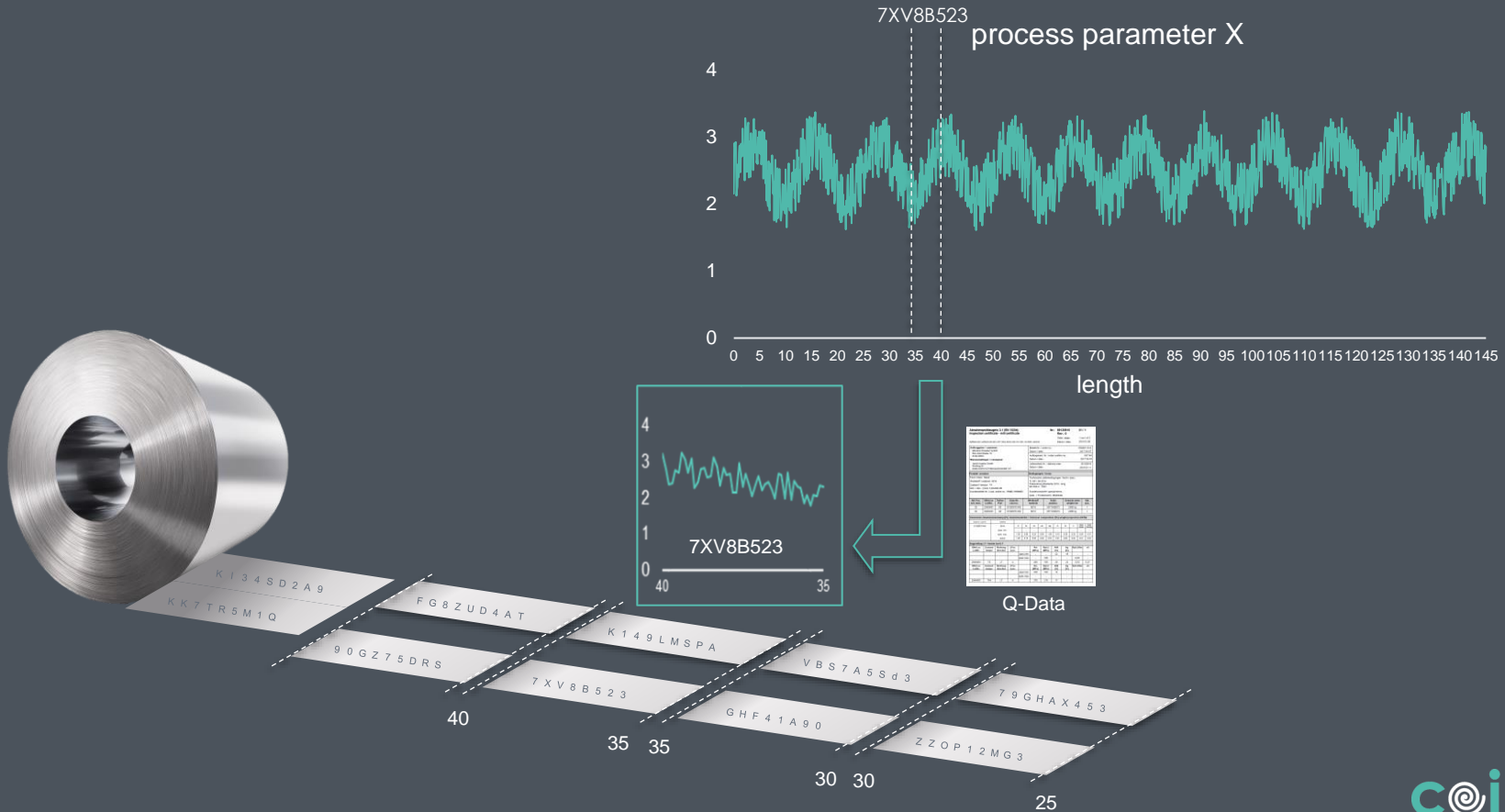
The coilDNA technology



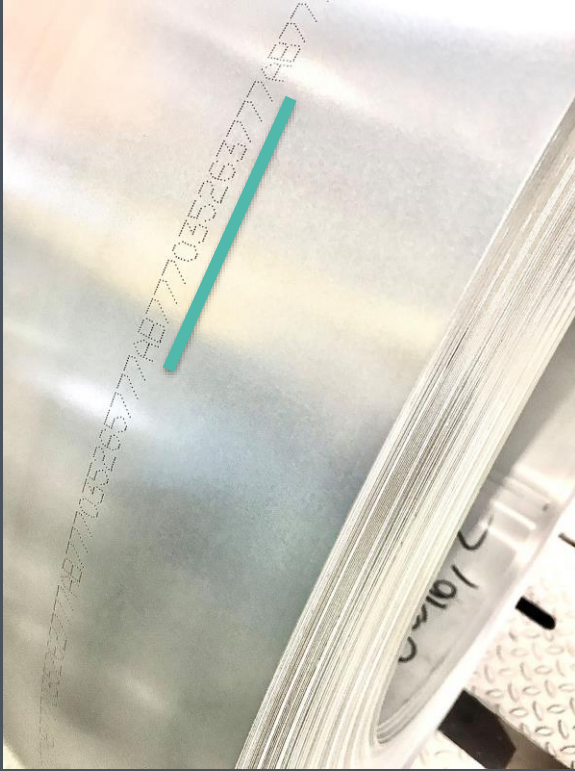
- Application of an information code along the entire length of the product
- Each part of the string clearly identifies the manufacturer, the coil and the position of the sheet within the coil
- Documents and data can be assigned to this information string or parts of it no matter how the coil is divided (slit / cross cut)

The coilDNA technology

Assignment of length-related data



coilDNA – identity for product and its parts



14 characters

are the key to the world of
individual product information
(DNA of the product)

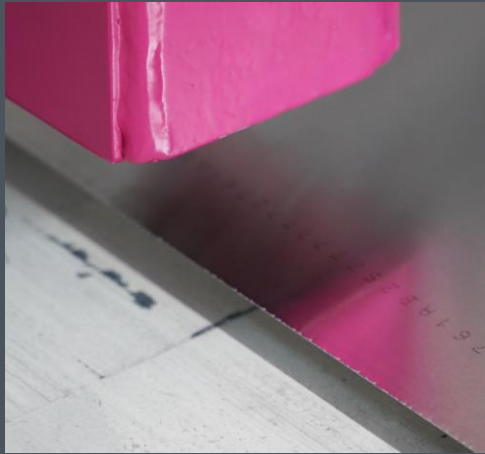
coilDNA added value

for producers, processors, users, recyclers

- Optimization production processes
- Reducing downtime
- Lowering quality defect costs
- Highly efficient technical communication
- Tracking properties along the value chain to the end customer and recycling (e.g.: sustainability parameters as CO₂ footprint)



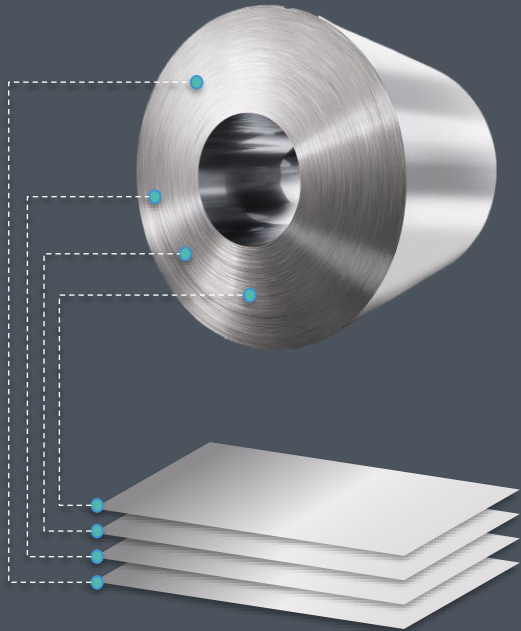
The coilDNA technology



124687AB436739345321AB8

Code might be divided w/o
loss of information

coilDNA general benefits (1/2)



- **Position-based assignment** enables production optimization at part level
- **High flexibility** regarding **data formats** (reports, documents, raw data, pictures)
- **Production- , Quality and Sustainability** related **data** can be precisely **assigned** to the individual **parts / position**
- **Perfect traceability**
- **Protection** against **forgery**
- **Blockchain Notarization** of Data

coilDNA general benefits (2/2)



- New ways of communication between producers and processors
- Immediate feedback on the product to the producer (**coilDNA Chat**)
- Sharing / recommendation of product to third parties (**coilDNA Share**)
- Check validity of paper documents (**coilDNA Check**)

coilDNA - brief Introduction

- **Startup founded** 2019
- **Patented technology**
- **Location** Linz - Austria
- **Purpose** Cloud-based software Development for material identification and material tracking



realizing **IoM** – Internet of Metals

- **Application** Materials produced in a continuous process that are divided in further processing
 - casting, rolling, extrusion
 - slitting, cut to length, stamping, laser cut

Final food for thought



Will future value-added digitalized processes and material cycles still be able to function without the individual traceability of individual parts?

The IoM company

