



# RFID JOURNAL VIRTUALLY LIVE!

SEPTEMBER 30 - OCTOBER 1, 2020

# **Gerdau RFID Implementation**

Transforming Logistics in Steel Manufacturing With RFID



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Site Logistics Manager - Ouro Branco (MG)



# Who is Gerdau?

Gerdau is a major producer of long steel in the Americas, and one of the world's largest suppliers of special steel.



**10 countries**

with steel manufacturing  
facilities



**21.7 million**

Tons of annual installed  
capacity



**30,000**

Team members around the  
world



We are also one of the largest recyclers in the world. Each year, we transform millions of tons of scrap into steel that is used to shape the future. Gerdau is a publicly-traded company listed on the New York, São Paulo, and Madrid stock exchanges.

# Ouro Branco Mill



About Ouro Branco Mill...

Ouro Branco is the largest GAB plant (in fact, it's the largest steel mill in the world)

It's responsible for more than half of all the GAB's production

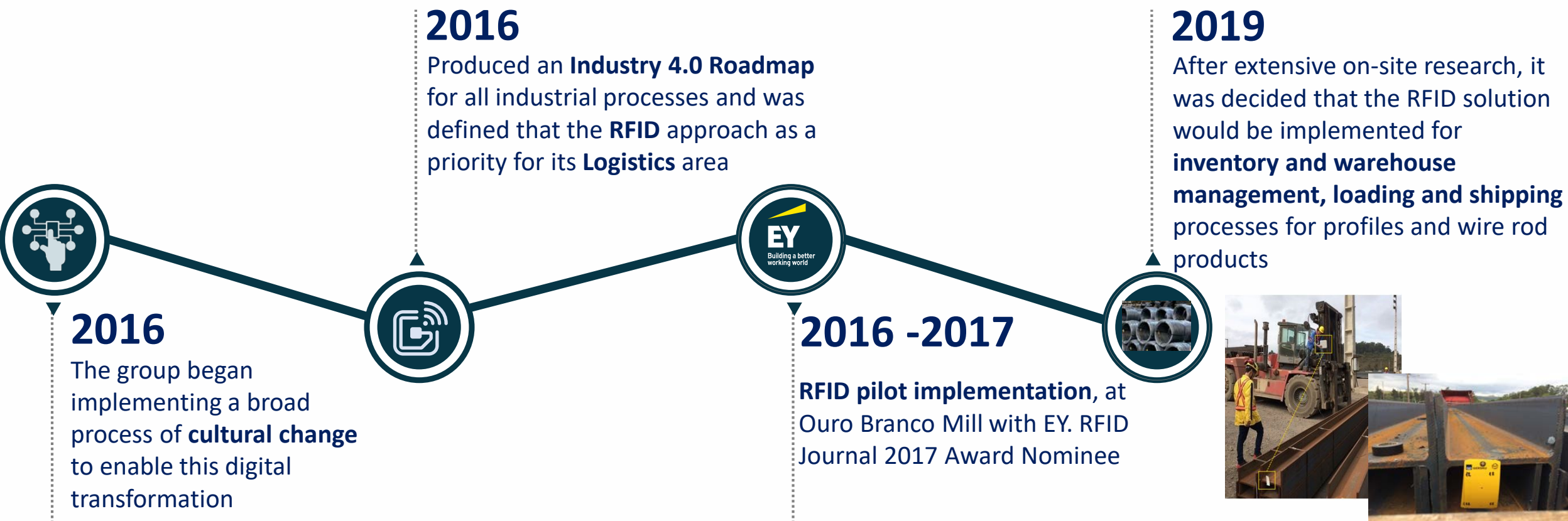
This mill produces profile, wire rod, billet, slabs, hot rolled coil and thick plate

Capacity of production around 3 M Ton/year





# Initial context



**Gerdau Digital Vision:**

*“Transform how we do business by digitally integrating and optimizing our operations to ensure customer-centricity”*

# Gerdau RFID – Logistics Challenges

## Before the RFID

Alterar foto segurança



### **Safety:**

Workers exposed to risks with manual activities, close to heavy equipments like overhead cranes and forklifts

### **Inventory:**

Low accuracy and financial loss



### **Productivity:**

Poor trucks/wagons load efficiency



### **Client satisfaction:**

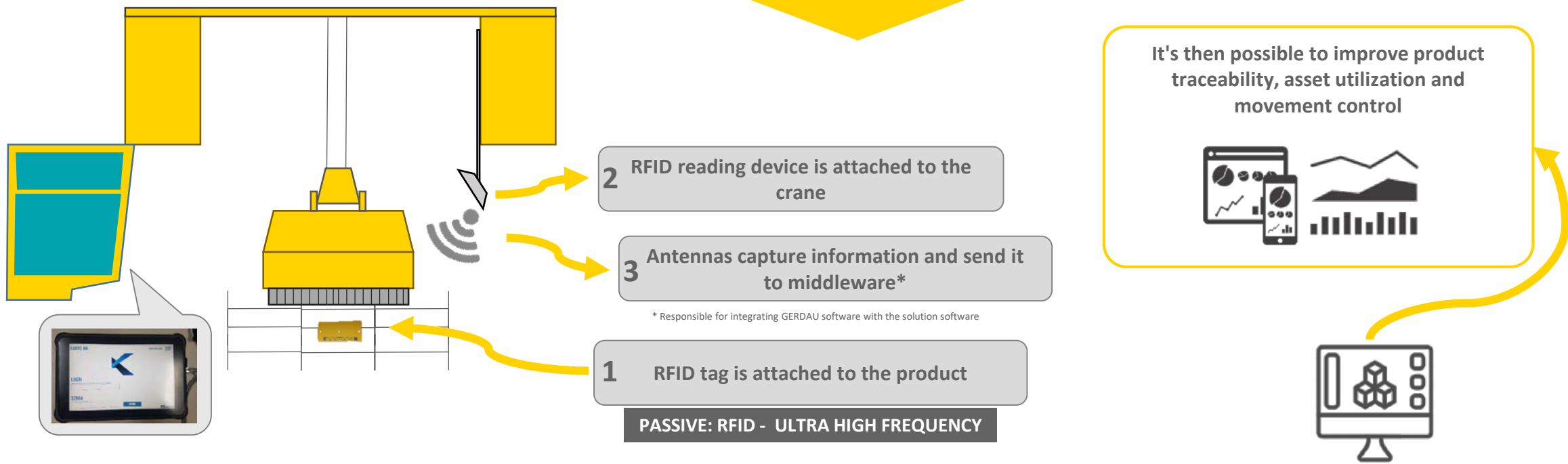
Delays and shipping mistakes



# Gerdau RFID – The Solution

RFID Connected Product - Profile and Wire Rod

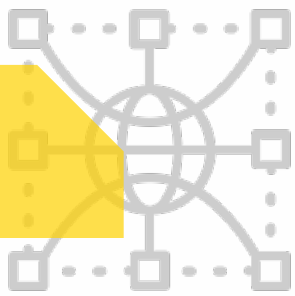
Central server collect information and stores



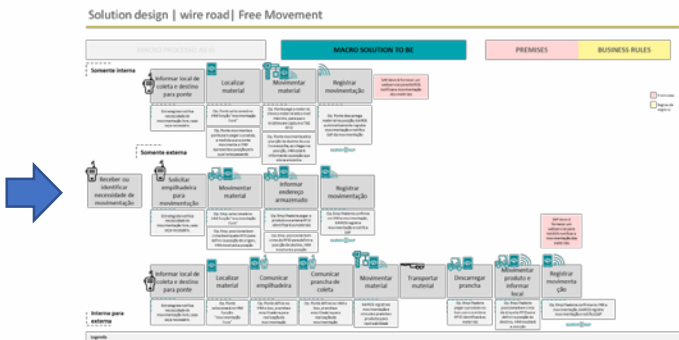


# Gerdau RFID – The Scope

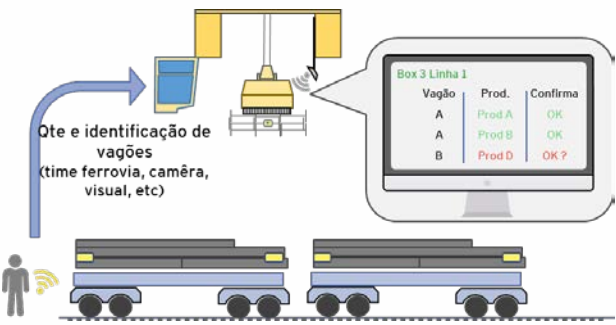
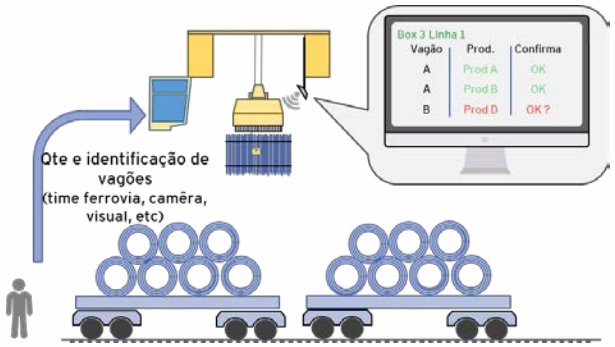
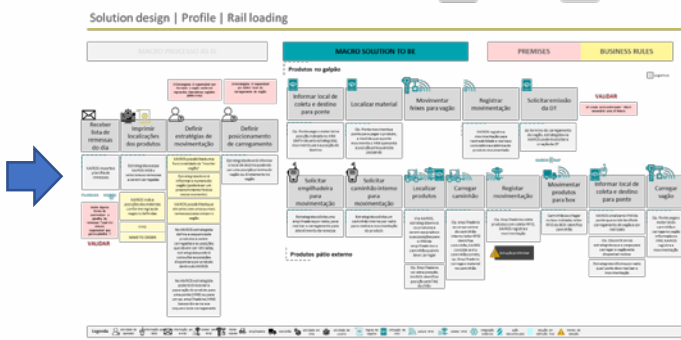
It's an initiative to create a **controlled environment for product movements**, with passive RFID for traceability and "machine-to-machine" communication for tracking operations.



wire road



Profile





# Gerda RFID – Solution Challenges

## Metallic environment

### Challenge:

- Some options of TAGs and inlays were analysed for reading quality and resistance

### Solutions:

- TAG and inlay models were selected to work on the environment constraints. Special printers were also defined



## Communication Between Devices

### Challenge:

- Among different systems (equipaments + middleware + basis softwares + ERP)

### Solutions:

- Integrated middleware and device management software



## Sensitive Devices

### Challenge:

- How to install and operate without damaging devices

### Solutions:

- Development of robust protections, with strategic positions



## Covid-19 Pandemic

### Challenge:

- Impossibility of the face-to-face visit

### Solutions:

- Daily meetings
- Remote monitoring and testing
- Mailing equipment



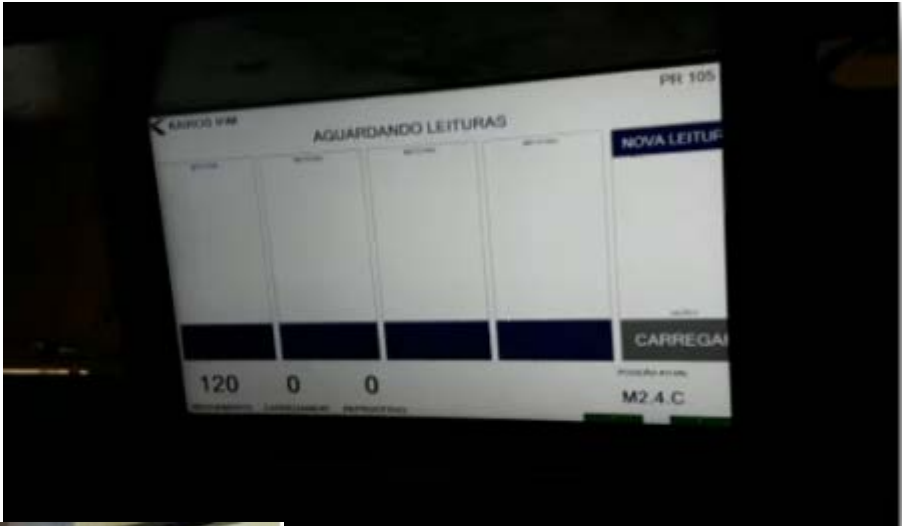
# Gerdau RFID – Infrastructure

## Overhead Cranes



To advance the Infrastructure of the Cranes, the installation of the conduits, connections, protection box, logical, electrical cabling and fixing brackets was carried out

Moving the overhead crane from one end to the other to test the reading of the antennas in the positioned beam. All antennas performed their readings

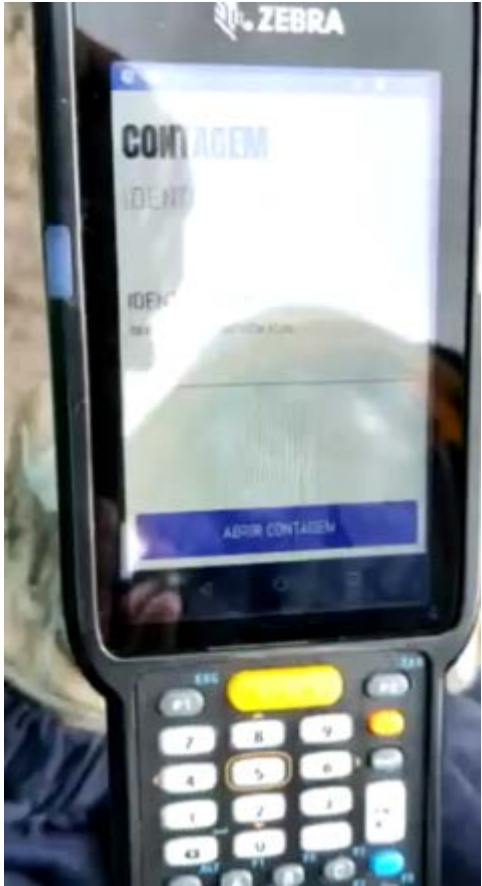
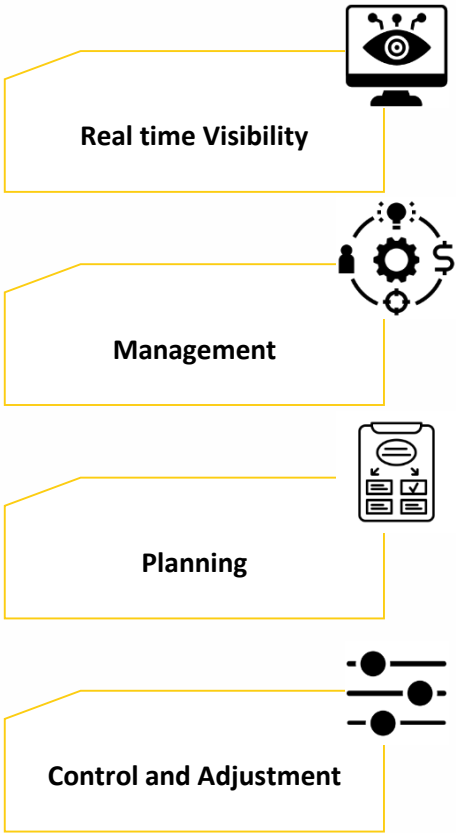


Visibility on the screen when RFID antennas identify the product being moved





# Gerdau RFID – Software



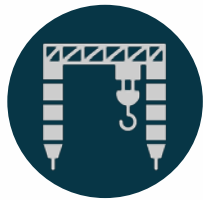
Software partnership with



# Gerdau RFID - Mapped Benefits



Increased stock accuracy



Increased productivity of overhead cranes and forklifts



Truck / Wagons wait costs and tariffs reduction



Safety



Workforce Optimization



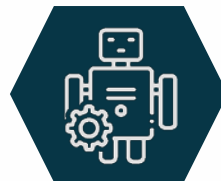
Quality in movements



Customer Satisfaction



Traceability, Monitoring, Control, Fraud mitigation



Process Automation

## MAPPED BENEFITS

- Safer environment for workers
- Increased **stock accuracy**
- Increased **productivity** of overhead cranes and forklifts
- Truck / wagons wait **costs and tariffs reduction**
- **Better freights negotiation** terms and conditions
- Client **complains reduction**
- **Fraud mitigation**
- Asset management transformation and better usage
- **Labor focus on adding value** activities
- Handheld Infrastructure better **costs**



# Gerdau RFID – Team

## GERDAU



Marcio Ouchi  
(Logistics)



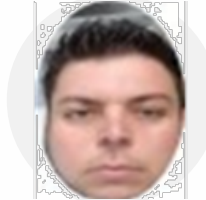
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Renato Foresti



Ricardo Alves



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# Thank you



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## Q.A.?



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# THANK YOU

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