

The graphic features a dark blue background with a repeating pattern of yellow circuit traces. At the bottom, a stylized globe is shown with a network of blue nodes and lines overlaid on it. The text is centered and reads:

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SEPTEMBER 30 - OCTOBER 1, 2020

Ceramics Manufacturer Gains Efficiency with RFID

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Production Manager



- Production Engineer
- Postgraduate in Business Management
- Current Position: Industrial Manager at Porto Brasil Ceramics

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The Company – Porto Brasil Cerâmica

- Founded in 1998, in Brazil
- Tabletop ceramics manufactures in Brazil
- 22,702.5 m² in total built-up area
- 488 employees
- Productive Capacity: 13 MM pieces per year
- Revenue growth in excess of 30% per year
- More than 3,000 Skus in the portfolio



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The business need

1º Inventory Accuracy



2º Improve Order Process



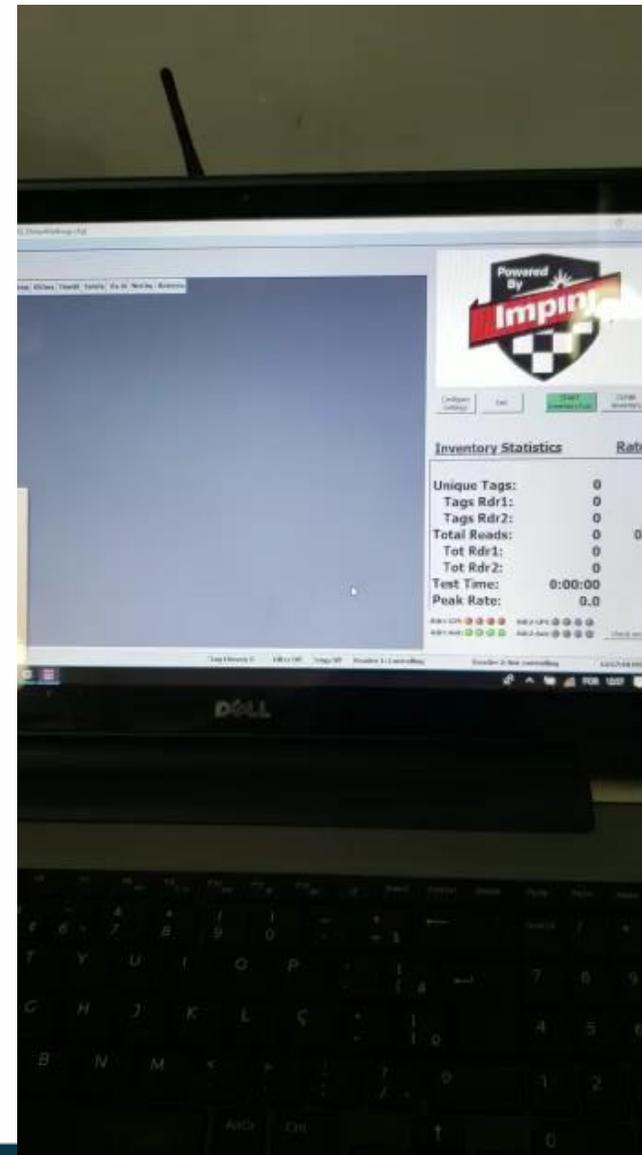
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RFID in Each Piece

- Ceramic Reflective Effects could block the signal emitted by the antenna
- Results:
 - 2898 Tags read in 30 seconds
 - Each tag – Represent 2.5% of the total production cost
 - The Project was considered financially unviable



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RFID on Carton

- We decided to use 1 tag in each carton
- The cost of the tag was spread over 6
- The existing Technology : Bar Code
 - Long time
 - Increase Losses
 - Reading errors
- Tags printed in the packaging process



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Implementation

	July /2019	Aug/2019	Sept/2019	Oct/2019	Nov/2019
Process Mapping					
ERP integration					
Implementation					
Tests					
Equipment Adjustments					



Type of RFID

- Partner : ITAG Tecnologia
- Passive 915 Mhz
- Middleware iTag iPrint
- Chip Impinj Monza R6

Datasheet

Adhesive Tag 7 X 2

IC Specifications

- IC Protocol: ISO/IEC 18000-6C
- Operating Frequency: 860~960MHz
- Chip: Monza R6

Environmental

- Operating Temperature: -40°C/+85°C
- Storage Temperature: -50°C/+125°C

Antenna Design

- Aluminum Engraving: 10 µm
- Substrate: PET/50 µm

Packing

- 5,000 units/roll/ESD with 3'core;
- 1 roll/ESD/inner case (175, 175 and 95mm);
- 4 inner cases/master CTN (380, 185 and 220mm).

Label Layout and Dimensions

Matt White PP Inlay
Hot-melt Adhesive Inlay
80/25g Silicon Paper
Thickness: 0.075
Thickness: 0.06
Thickness: 0.04
Thickness: 0.065

How can Radio Frequency Identification (RFID) improve your business?
WWW.ITAGTECNOLOGIA.COM.BR

iTAG
RFID ETIQUETAS INTELIGENTES



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What does RFID do in Porto Brasil?



- Pallet Read: 40 minutes to 1 minute
- No more missing items on orders
- The gate has 4 fixed reader (Zebra FX7500)



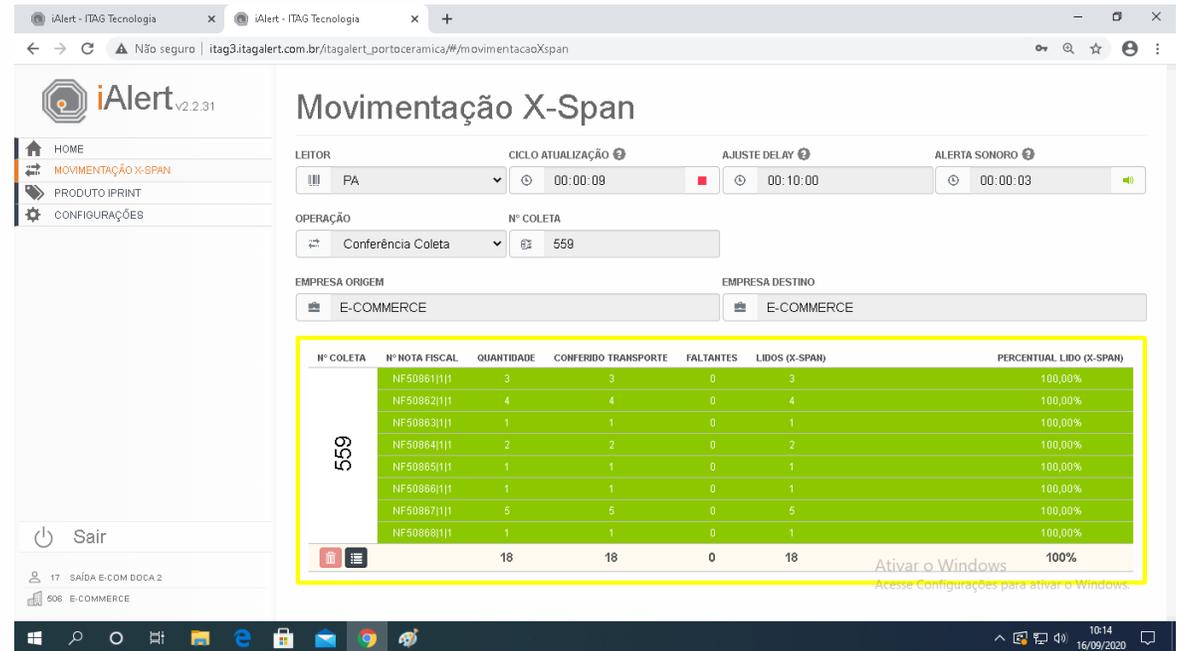
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What does RFID do in Porto Brasil?

- Check before shipment of goods



Movimentação X-Span

LEITOR: PA | CICLO ATUALIZAÇÃO: 00:00:09 | AJUSTE DELAY: 00:10:00 | ALERTA SONORO: 00:00:03

OPERAÇÃO: Conferência Coleta | Nº COLETA: 559

EMPRESA ORIGEM: E-COMMERCE | EMPRESA DESTINO: E-COMMERCE

Nº COLETA	Nº NOTA FISCAL	QUANTIDADE	CONFERIDO TRANSPORTE	FALTANTES	LIDOS (X-SPAN)	PERCENTUAL LIDO (X-SPAN)
559	NF 50881 1 1	3	3	0	3	100,00%
	NF 50882 1 1	4	4	0	4	100,00%
	NF 50883 1 1	1	1	0	1	100,00%
	NF 50884 1 1	2	2	0	2	100,00%
	NF 50885 1 1	1	1	0	1	100,00%
	NF 50886 1 1	1	1	0	1	100,00%
	NF 50887 1 1	5	5	0	5	100,00%
	NF 50888 1 1	1	1	0	1	100,00%
		18	18	0	18	100%



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What does RFID do in Porto Brasil?

- Rotating inventories in the warehouse
- Handheld readers scream



Issues

- E-commerce orders – no benefits (.Bat)
- Tags costs
- Exchange variation impact
- Customers do not use technology
- Technology still does not add value to the product



Benefits

- Inventory accuracy now is 99%
- Reduce Overstock
- Increase efficiency
- Reduction of 4 people in the department
- Improve quality of service while reducing time needed
- Perfect Order Fulfillment
- Customer confidence



Future

- The return on investment has not yet been achieved. We expect to achieve the ROI in 2 years
- Next Steps :
 - Implement self-checkout in our physical store
 - Transform the tag into a vehicle for product information
 - Improve the Asset visibility went from it's "on Warehouse One" to it's in "Lot 2, Row 3, Spot 45"



THANK YOU

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