Ensuring quality of RFID systems

October 2015
What Voyantic does in RAIN RFID industry

**Design excellence**
- R&D tools for RF engineers
- Meeting design targets efficiently

**Manufacturing excellence**
- Manufacturing testers
- Real-time visibility into production, quality, process improvements, efficiency

**Deployment excellence**
- Testing tools
- Benchmark, control risks, avoid surprises, fully harvest the ROI of RFID
Voyantic Business Overview

- Voyantic is the global leading provider of RFID measurement solutions
  - RFID Performance Measurement
  - HQ, R&D and Production in Finland
  - Memberships in GS1 US, AIM Europe, RAIN
  - Continuous investment in R&D

- Voyantic is a “born global” company
  - 95% of revenue from exports
  - More than 350 systems delivered
  - Customers in 30 countries
  - 10 Distributors for local Sales and Support
  - Comtel (www.comtel.kr) in Korea
Global Reach with Partners

- Comtel (www.comtel.kr) in Korea
Tag quality in R&D

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RFID system performance

- How strong signal the reader sends
- How sensitive the tag is
- How strong signal the tag reflects back (backscatter)
- How sensitive is the reader
Performance baseline, orientation pattern and performance on different materials and tag populations are defined in tag design.
Tagformance
Tag Design

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Performance baseline, orientation pattern and performance on different materials and tag populations are defined in tag design.
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Performance baseline

- Air
- Rubber
- PVC
- PTFE
- FR4
- Cardboard

Tagsformance lite, Voyantic Ltd.
Tagformance
Tag Design
Tagformance
Tag Design

Tag is designed for one or multiple use cases
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Tag Design

Portable desktop systems, full laboratories with anechoic chambers, field test systems.
Tag quality in Manufacturing

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Tagsurance
Tag manufacturing

Even if R&D has designed a perfect tag, testing is needed in production.

Without testing there is no visibility into production – the tags may work – but how they work?

With proper testing production is in control, and quality variation is acceptable.
Tagsurance Integrated In-line

100% delivery quality

Realtime feedback from process → decreased variance due to better process control, increased yield

Full quality log for customers

Identifying representative sample tags
Manual test station, reel-to-reel tester, bend tester, testing in production line
Quality data in Tag sales / Tag purchasing

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Loop closes.

Manufacturing sample tags are fully characterized. Tag data is a powerful sales tool.
Tagformance
Tag Data and sales support

With read range test forward and backward link can be analysed.
Tagformance
Tag Data and sales support

With read range test forward and backward link can be analysed.
With read range test effect of variance can be visualized. There is always variance in mass production.
Population test shows how many tags can be read with different reader powers, and allows to see details of individual tags. A tag can be selected for further tests.
Tagformance
Tag Data and sales support

Free of charge Viewer SW helps in tag sales and selection. With proper performance data correct decisions can be made efficiently.
Summary

RFID test systems for R&D
RFID quality testers for manufacturing
RFID test tools for system deployment

Voyantic tools help in creating
• high quality,
• well functioning,
• reliable
RAIN RFID systems
Thank you!

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