

Chemical Tracking Pilot with RFID

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BAE Systems



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Goals of Pilot Project

- Zero Chemical Defects
 - Increase shelf life visibility
 - Reduce chemical non-conformances
- Cost Reduction
 - Reduce chemical scrap
 - Increase material availability awareness



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Existing Infrastructure



- RFID RTLS
 - Matrix of readers & antennae
- Portals
 - Readers over doorways
- Handheld
 - Used in closed environments
- IoT Application
 - Central hub integrating RFID systems & systems of record

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Choosing Technology Partners

- Trusted partners ability to provide leverage points
- An agnostic software solution, able to integrate current and legacy systems
- Experience deploying IoT and RFID



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Alternative Solutions



- EHS systems
- 2D Bar Code Systems
- Weight & Scale Systems

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Exploring RFID Technologies

- Passive Tags
 - Currently deployed, but additional environmental stressors need to be resolved
- Active Tags
 - Active tags typically cost more
- NFC viability
 - Not selected for pilot due to additional hardware requirements



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Choosing Technologies



- Existing infrastructure could be leveraged
- Previous experience with application
- Time to develop PoC

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Deployment/implementation Challenges

- Selecting an area that represented a typical environment
- Change management
- Allocating resources



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Environmental Conditions

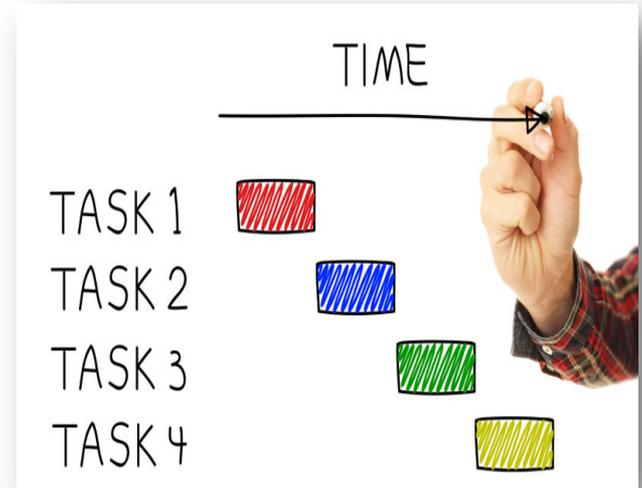
- Electronics assembly environments
- ESD/FOD controlled



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Time Phase Plan

- 3 month pilot
 - 1-30 days planning
 - 30-60 days implementing
 - 60-90 days data capture & analysis



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Results

ID	Name	Calibration Due Date	Category
33186C698000194000AAS...	51010	2023-11-01 @ 01:00	Chemical
TWTX1041	592466	2022-06-11 @ 01:00	Chemical
00AASE8C	TWTX1041	2022-06-11 @ 01:00	Chemical
33186C698000194000AAS...	737008-2	2022-06-01 @ 01:00	Chemical
33186C698000194000AAS...	737008-2	2022-06-01 @ 01:00	Chemical
33186C698000194000AAS...	20054	2021-12-18 @ 01:00	Chemical
33186C698000194000AAS...	20054	2021-12-18 @ 01:00	Chemical
33186C698000194000AAS...	0757033P001	2021-10-25 @ 01:00	Chemical
33186C698000194000AAS...	0757033P001	2021-10-25 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical
33186C698000194000AAS...	2121370	2021-09-04 @ 01:00	Chemical



- RFID reads were realized on chemical containers
- Inventory scans were possible with and without fixed antennae
- Search and seek functionality realized

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Next Steps

- Review lessons learned
- Develop plan to scale
- Connect Suppliers to RFID System



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Any
Questions



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