



Rentokil Steritech

The Experts in Pest Control

Bugs Eye View: A day in the life of an ingredient

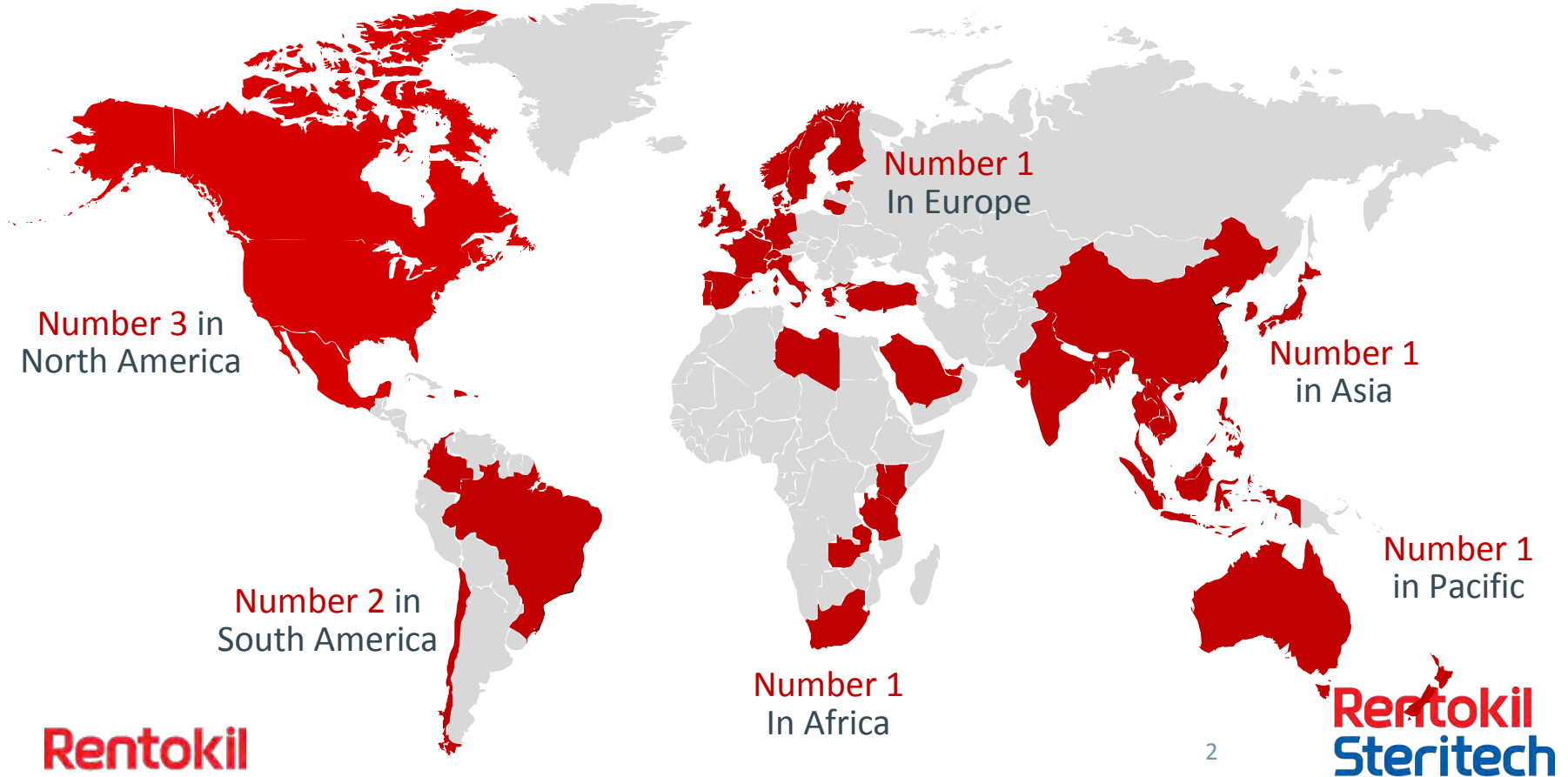
Food Safety Summit May 11th, 2017

Tom Dobrinska, BCE

Regional Technical Services Manager, Rentokil North America

Global Leadership Across 66 Countries

The Most International of Pest Controls



A family of brands



Rentokil
The Experts in Pest Control

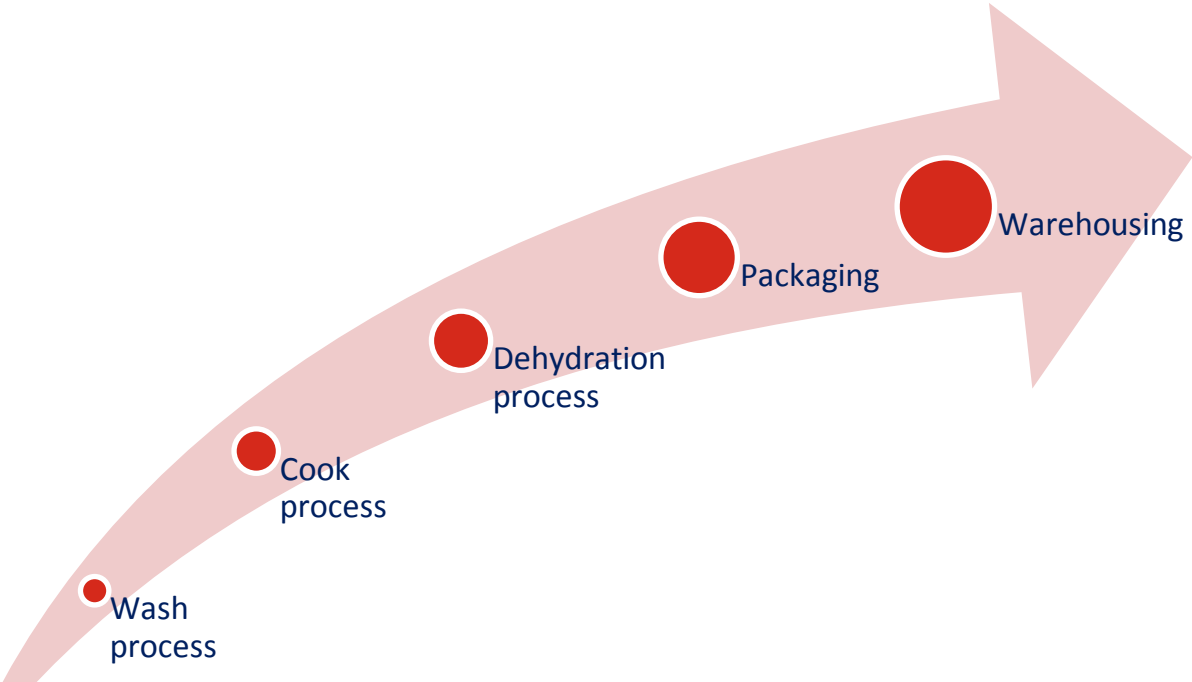
WESTERN
EXTERMINATOR COMPANY
Your Local Pest Control Experts
A Rentokil Company

Presto-X
Your Local Pest Control Experts
A Rentokil Company

Ehrlich
Your Local Pest Control Experts
A Rentokil Company

Rentokil
Los Expertos en Control de Plagas

From Potato to Processed Dry Product

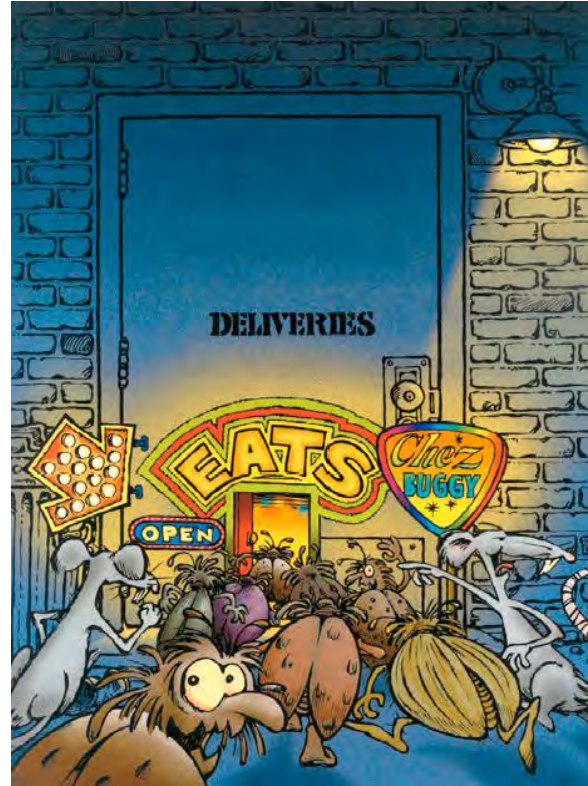


What can we bring in on raw product?



Public Enemy #1- House Mouse

- “Curious” feeding behavior
- 12 ft. feeding range
- Secretive nature
- 40-100 fecal pellets a day
- Can get through $\frac{1}{4}$ ” opening



Preventive Controls?

- Rodent stations
- Receiving separated from processing
- Processing well sealed from receiving
- Sweeps and screens
- Sanitation levels



Don't Forget the Roof

- Overlooked
- Moisture
- Debris
- Harborage
- Vents



What are the risks at grading and washing?



Public Enemy #2- Phorid Flies

- Zigzag movement
- Breed in decay
 - Phorid rhymes with horrid
- Broken drain lines



Preventive Controls?

- SSOP's matched to sanitation levels
- Floor drains on someone's radar
- Floors structurally maintained
- Floor wall juncture free of gaps



What are the risks at the cooking stage?



Public Enemy #3- German Cockroach

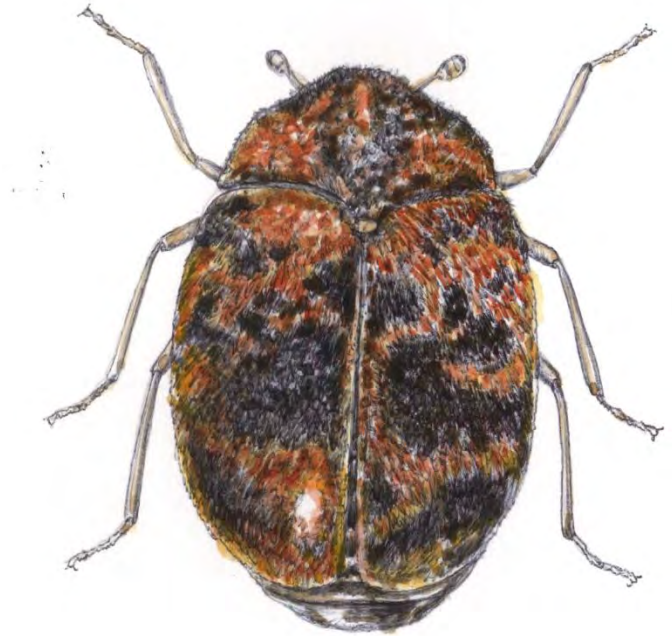
- Vectors of human infection
- Source of allergens
- They “love” cardboard
- Incoming product
- Crack and crevices
- Very fast reproductive rate
- Incoming product



Preventive Controls?

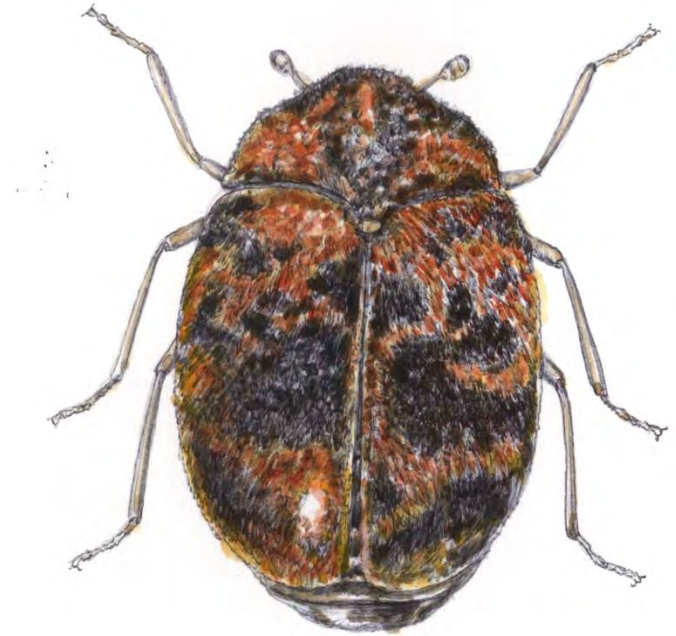
- Locker room cleanout programs
- Good enforcement of GMP's with regard to personal items on the line
- Create time for PMP to inspect
- Sanitation

What are the risks at the dehydration and packaging step?



Public Enemy #4- Warehouse Beetle

- Strong fliers
- Quick dispersal
- Varied diet
- Prolonged diapause
- Allergenic



Fugitive Dust



Preventive Controls?

- Sanitation schedules based on data.
- Pheromone monitoring
- Action thresholds established – steps prior to fumigation and even fogging

What are the risks during warehousing?



Preventive Controls?

- Rodent monitoring
- Pheromone monitoring and ILT's for all species noted
- Actions and thresholds determined
- Inspection of interior areas, not just perimeter walls
- Clean spills
- Keep floor well sealed, around pillars, expansion cracks, floor wall juncture, ...
- FIFO

A day in the life of an ingredient: FSMA view

- Establish program
- Execute it
- Document the execution
- Recommendations – close the loop!

“It’s not the strongest of the species that survives, nor the most intelligent, but the one most *responsive* to change.”

-Charles Darwin, 1809

What is the Internet of Things (IoT)?



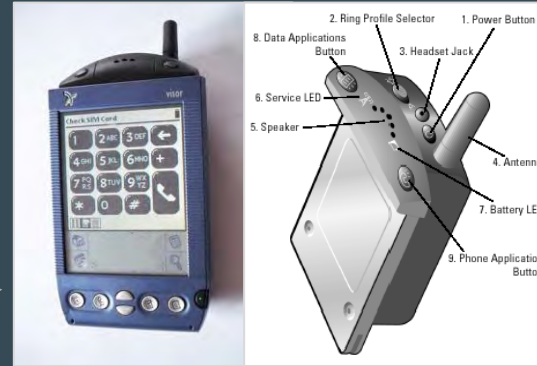
Internet = Connected
Things = Devices



Phone



Phone

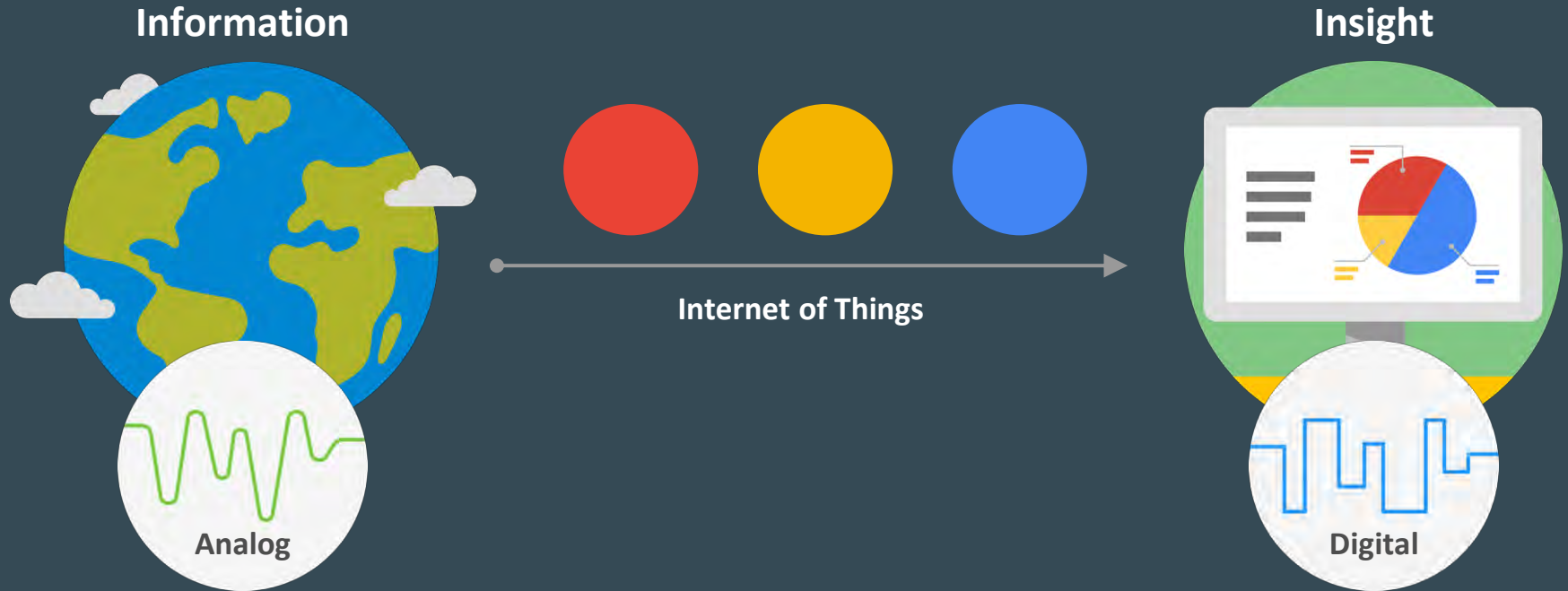


"IoT"



Phone

How do you collect and process this analog information, to transform into useful business intelligence?



Rentokil Steritech's PestConnect



The future of service

- ✓ Automated record keeping
- ✓ Responding where needed
- ✓ Supported by technology

The future is not about substituting pest specialists for technology ...
... it is about enabling the expert pest specialist.



**Data without action is
overhead.**

The impact of the Internet of Things: From farm to fork

The Internet of Things (IoT) is poised to have a major impact on the food supply chain – all the way from the farm to the individual buying food from a retail outlet. Based on recent research carried out by Quocirca, this report, commissioned by Rentokil Initial, looks at the various areas where the IoT will enable the food supply chain to gain the maximum benefits.



- Current population growth, eating habits and farming methods increasingly conflict one another.
- Recognition of the IoT and cloud computing across the food supply chain is relatively low.
- Manual systems to manage issues around hygiene and pest control are still prevalent.
- Respondents to this research recognise the need for change.
- The need for simple to use, yet effective reporting systems is clear.
- The IoT can be all-encompassing; it is imperative that the technology strategy deployed is future-proof.
- Cloud-based data systems, while currently untriated, provide the best means of storing and sharing data across the food supply chain.

quocirca

For more information download our Whitepaper:

www.rentokil.com/gfsi