BMX POULTRY: WE ARE WE GOING?

PIONEERING DIAGNOSTICS
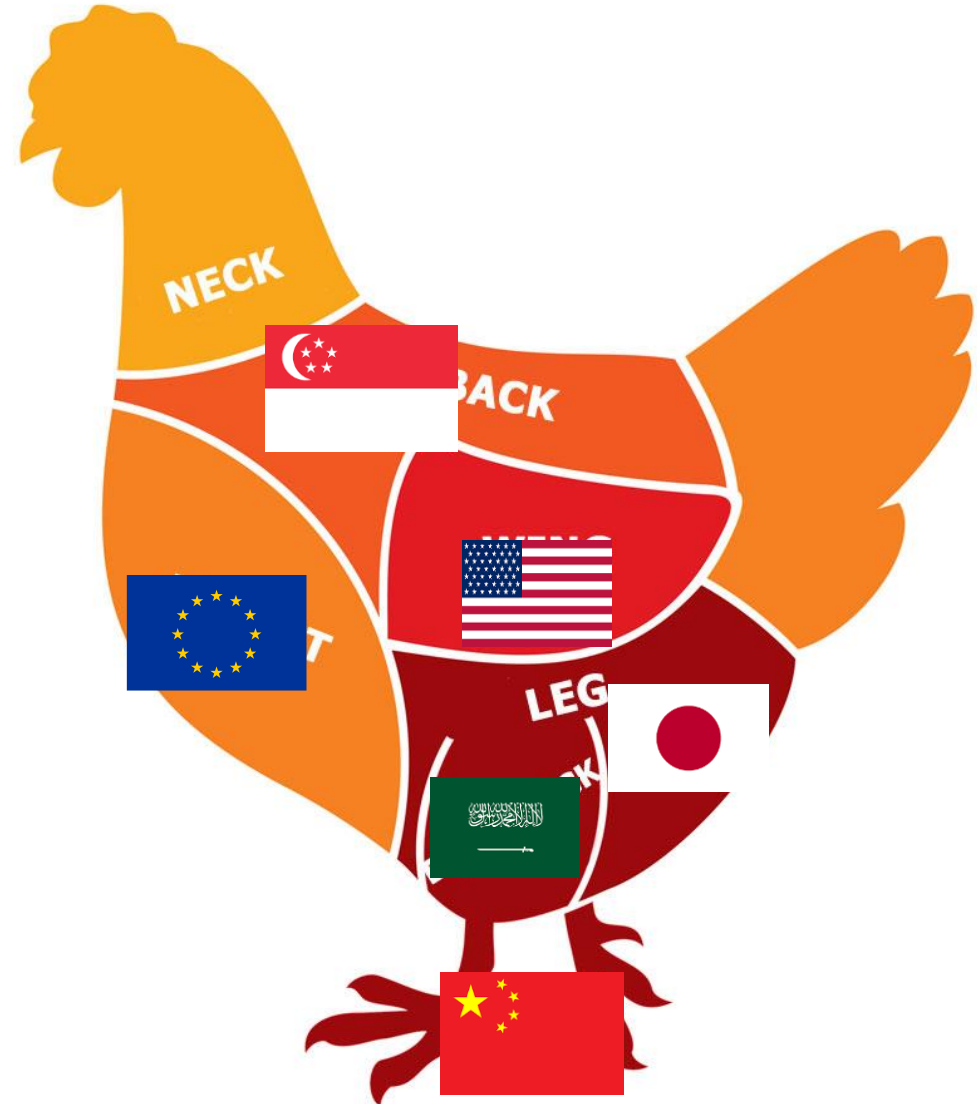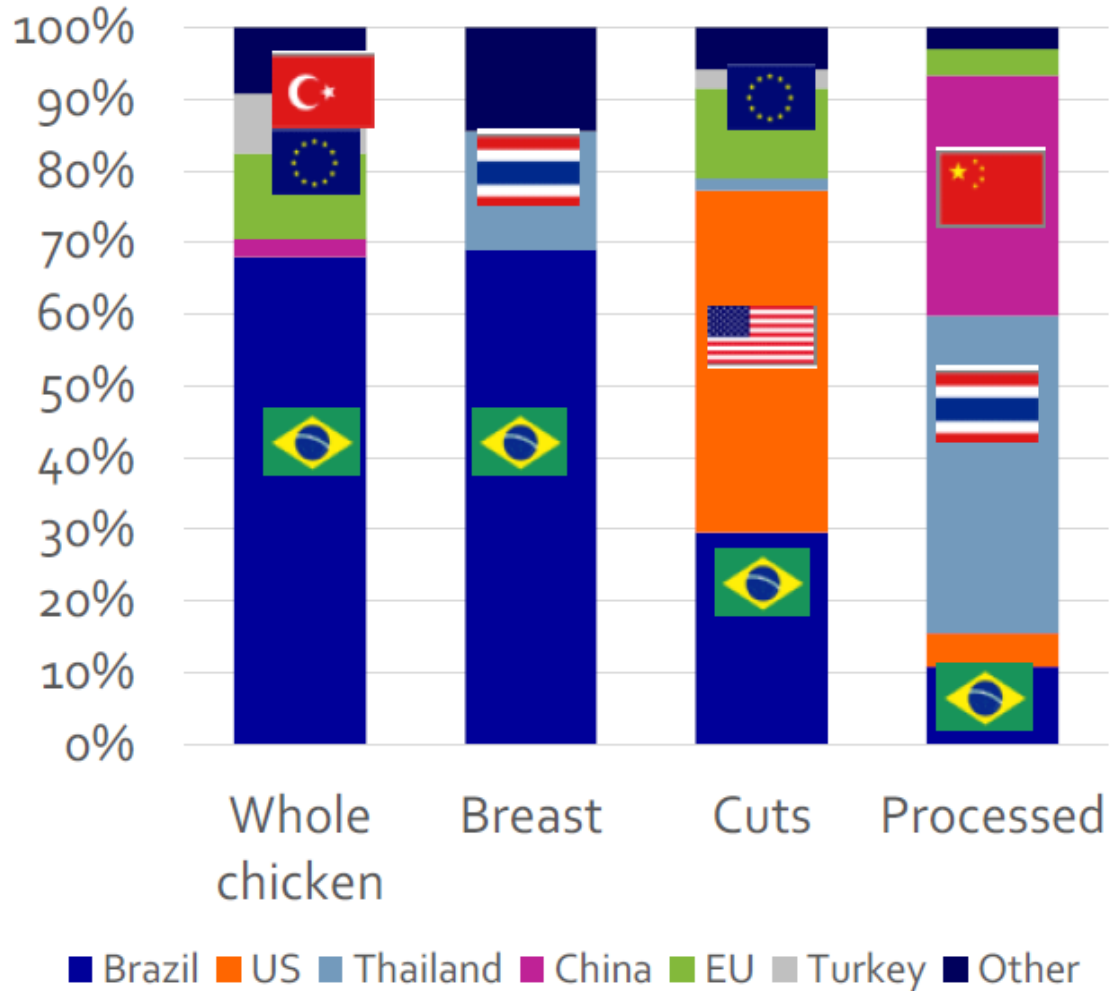
1. ΠΟΙΟ ΕΙΝΑΙ ΤΟ ΟΡΑΜΑ ΤΗΣ BIOMERIEUX ΓΙΑ ΤΗ ΒΙΟΜΗΧΑΝΙΑ ΚΡΕΑΤΟΣ, ΤΙΣ ΚΥΡΙΕΣ ΤΑΣΕΙΣ ΤΗΣ ΚΑΙ ΤΙΣ ΣΥΓΧΡΟΝΕΣ ΠΡΟΚΛΗΣΕΙΣ;

WHAT IS THE BMX VISION ABOUT THE MEAT INDUSTRY AND THEIR MAIN TRENDS & FSQ CHALLENGES?

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BIG MARKETS & BIG CHALLENGES

Global export market shares by country

Brazil ■ US ■ Thailand ■ China ■ EU ■ Turkey ■ Other

Source: Rabobank projections based on FAO, USDA and local statistics, 2018

MEAT KEY CHALLENGES AND TRENDS

The Meat industry will be more and more upstream data driven and automatized and special care and focus will be dedicated to critical areas. **mitigation across the whole production chain.**

Data will become gradually more and more processable requiring **tool predictions** to translate them into actionable insights for proper **risk**

PRODUCTIVITY & SUPPLY CHAIN RISK

2.ΠΩΣ ΕΞΕΛΙΣΣΕΤΑΙ Η ΒΙΟΜΗΧΑΝΙΑ ΓΙΑ ΝΑ ΕΛΕΓΞΕΙ ΑΥΤΕΣ ΤΙΣ ΠΡΟΚΛΗΣΕΙΣ ΣΤΗΝ ΠΟΙΟΤΗΤΑ ΤΡΟΦΙΜΩΝ ΣΕ ΠΑΓΚΟΣΜΙΟ ΕΠΙΠΕΔΟ;

HOW IS THE INDUSTRY EVOLVING TO CONTROL THIS FSQ CHALLENGES AT GLOBAL LEVEL?

US MARKET: SHIFT IN MINDSET

MOVING FROM HAZARD BASED TO RISK BASED POLICY

Salmonella	STECs

- On August 7, 2024, the United States Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) published its updated "**Salmonella Framework for Raw Poultry Products**" consisting of a proposed rule and proposed determination that would declare Salmonella an adulterant in raw poultry under certain circumstances. Specifically, **FSIS is proposing to declare Salmonella an adulterant in raw poultry when Salmonella** is present at great than 10 colony forming units (CFU) per gram or milliliter and certain serotypes of public health concern are present. In addition, FSIS is proposing to revise regulations in 9 CFR 381.65(g) and (h) to require that poultry slaughter establishments incorporate **statistical process control (SPC)** monitoring principles into their microbial monitoring programs (MMPs) and submit microbial monitoring sampling results to FSIS electronically and to require additional sampling at certain processing steps.

2024 beyond
- Redefine the Adulterant STEC
- Focus on virulence genes and remove "O" serogroup
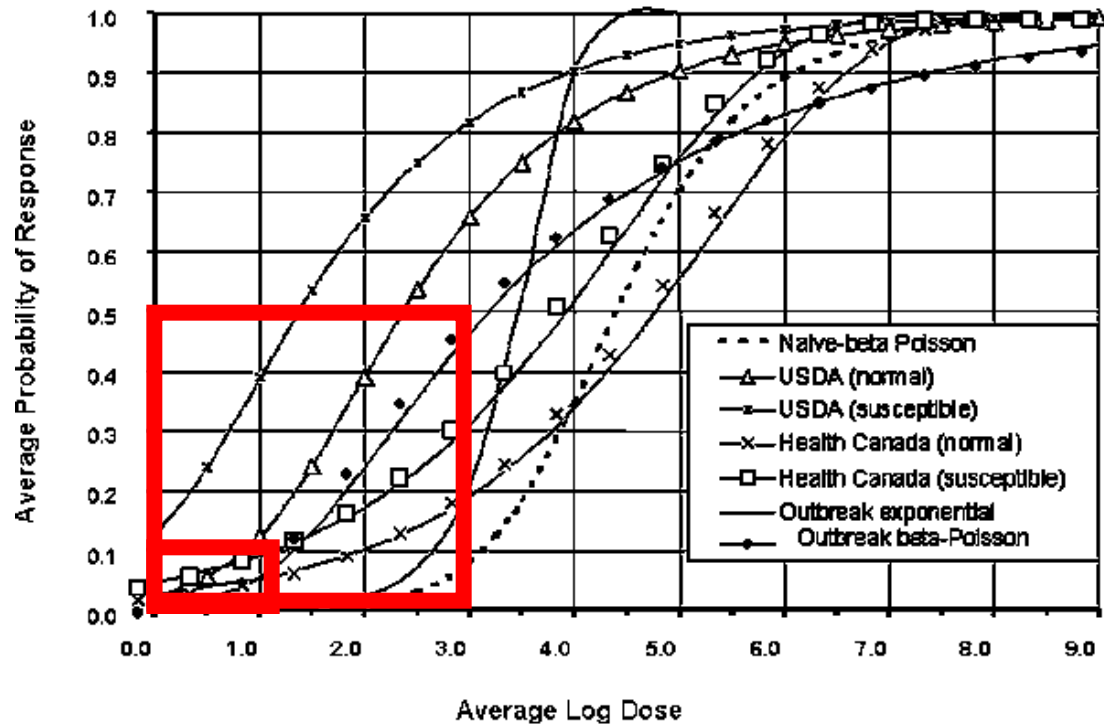- Risk profile

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9

FOCUS ON RISK VS MARKET MICRO CRITERIA DILEMMA

1 BROILER:

- X Markets Parts
- X Lines Process
- X Lots
- X Chemical Criteria
- X Microbiological Criteria
- X Regulatory Criteria
- X Techs Specs
- X ESG, Welfare Labels
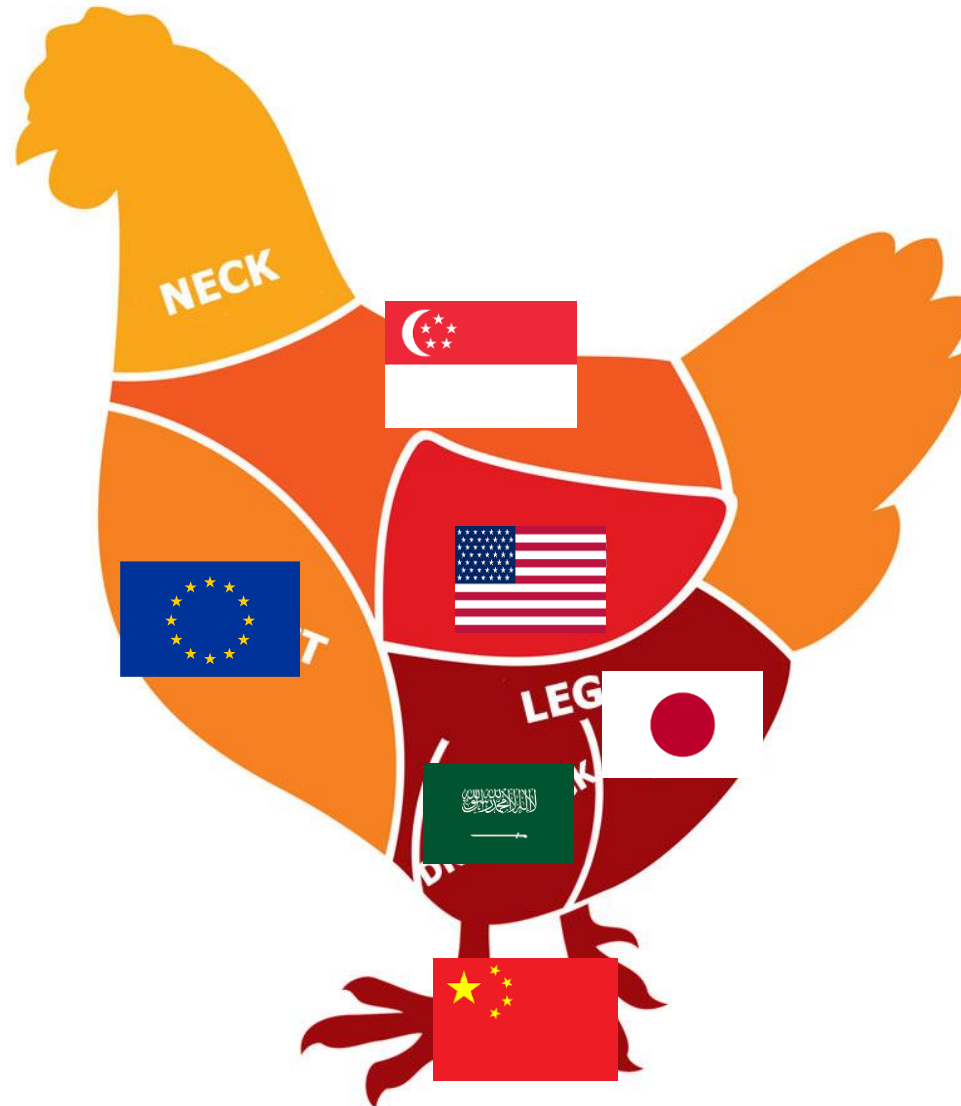
UNDERSTANDING THE RISK: SLM PREVALENCE VS LOAD: SAME LEVEL?

FAO, WHO 2023: Hazard characterization and exposure assessment of *Salmonella* spp. in broilers and eggs.

For example: 22% Prevalence vs 2% Risk Probability of Response (10CFU)

The risk profile will be based on the Loading and the efficiency on the Logs reductions of every Product and Parts

Incoming Flocks loading up to 6-7-8 logs….my interventions will be enough? Same risk on every lot or Part, box or even farm? Are the Serotypes of concern? Where is coming from?

PAST AND FUTURE: PREVALENCE VS QUANTIFICATION

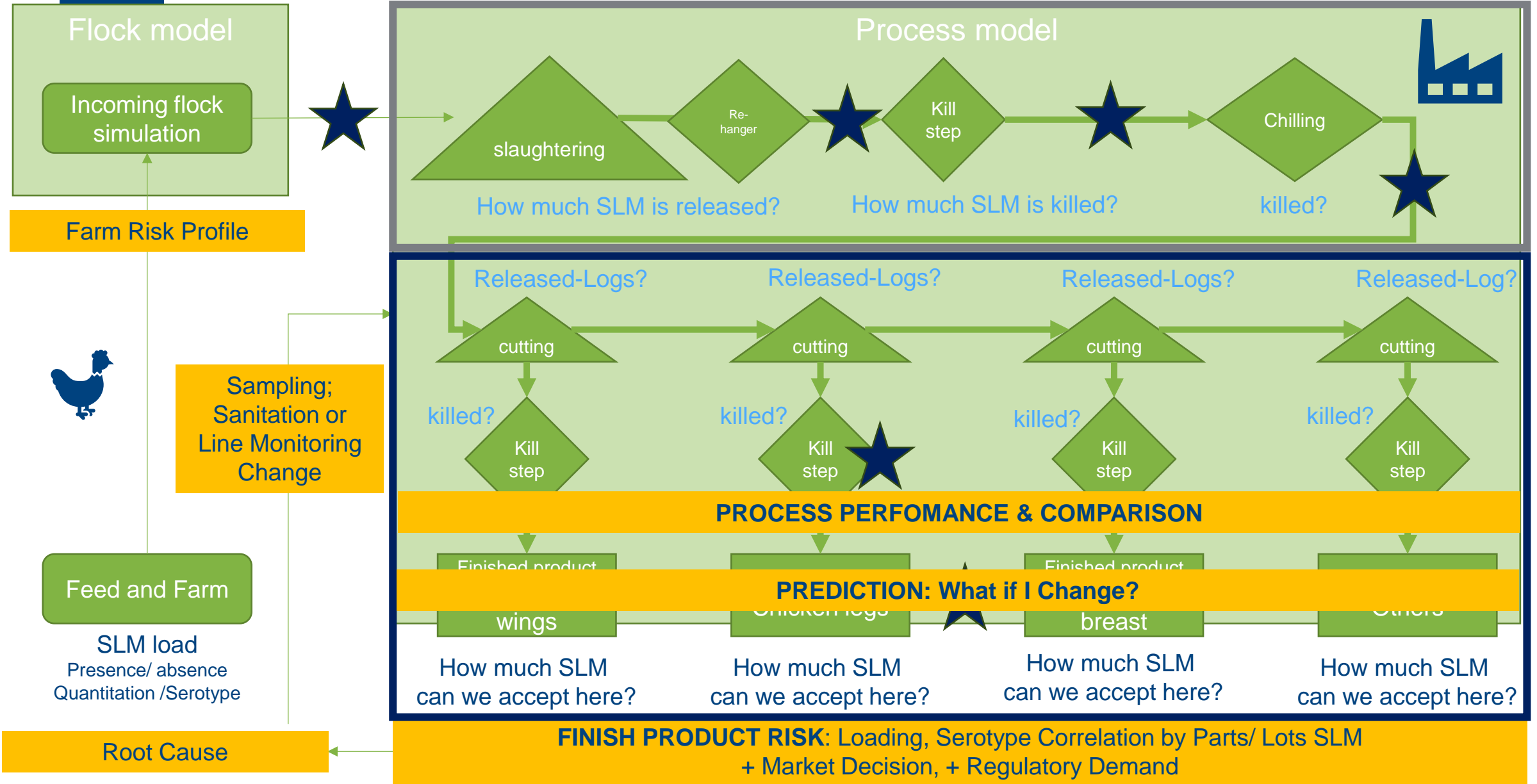Sanchez-Plata et al, 2021

marcos.x.sanchez@ttu.edu
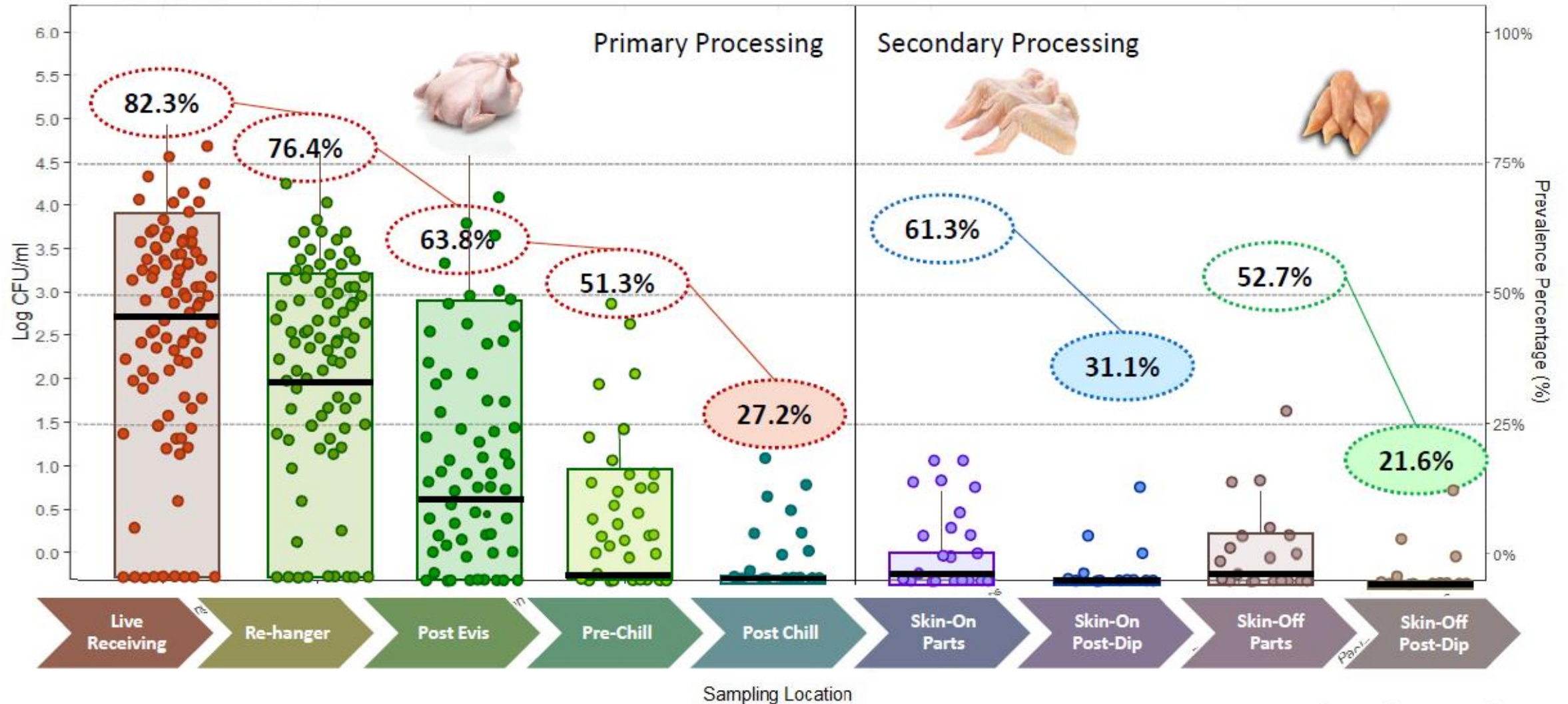
3. ΠΩΣ ΘΑ ΜΠΟΡΟΥΣΕ Η BIOMERIEUX ΝΑ ΥΠΟΣΤΗΡΙΞΕΙ ΤΗΝ ΑΝΤΙΜΕΤΩΠΙΣΗ ΑΥΤΩΝ ΤΩΝ ΠΡΟΚΛΗΣΕΩΝ ΚΑΙ ΚΙΝΔΥΝΩΝ, ΧΡΗΣΙΜΟΠΟΙΩΝΤΑΣ ΝΕΕΣ ΤΕΧΝΟΛΟΓΙΕΣ ΚΑΙ ΠΡΟΣΕΓΓΙΣΗ;

HOW BMX COULD SUPPORT THOSE CHALLENGES AND RISKS USING NEW TECHS AND APPROACH (ADX+360)?

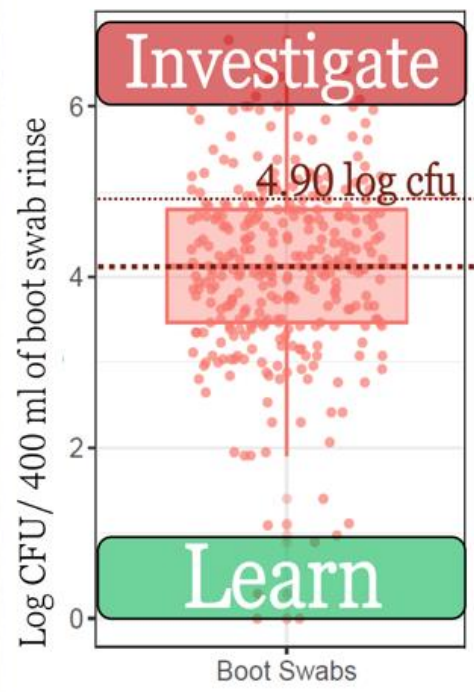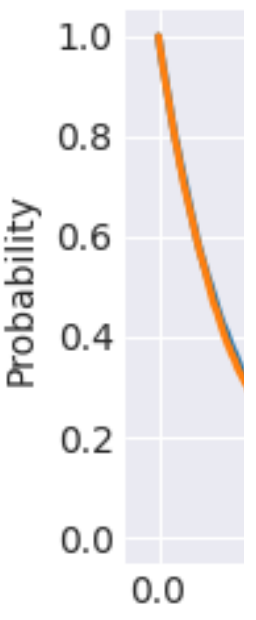BIOMÉRIEUX

ADX RISK DATA PROCESS BASED ON RISK BIOMAPPING MODEL

Flock model

Incoming flock simulation

Farm Risk Profile

Feed and Farm

SLM load
Presence/ absence
Quantitation /Serotype

Sampling;
Sanitation or
Line Monitoring
Change

Root Cause

Process model

slaughtering

Re-hanger

Kill step

Chilling

How much SLM is released?

How much SLM is killed?

killed?

Released-Logs?

cutting

killed?

Kill step

Released-Logs?

cutting

killed?

Kill step

Released-Logs?

cutting

killed?

Kill step

Released-Log?

cutting

killed?

Kill step

PROCESS PERFOMANCE & COMPARISON

Finished product

Finished product

PREDICTION: What if I Change?

wings

Chicken legs

breast

Others

How much SLM can we accept here?

How much SLM can we accept here?

How much SLM can we accept here?

How much SLM can we accept here?

FINISH PRODUCT RISK: Loading, Serotype Correlation by Parts/ Lots SLM
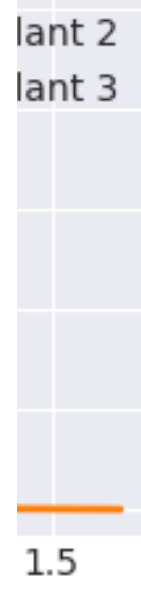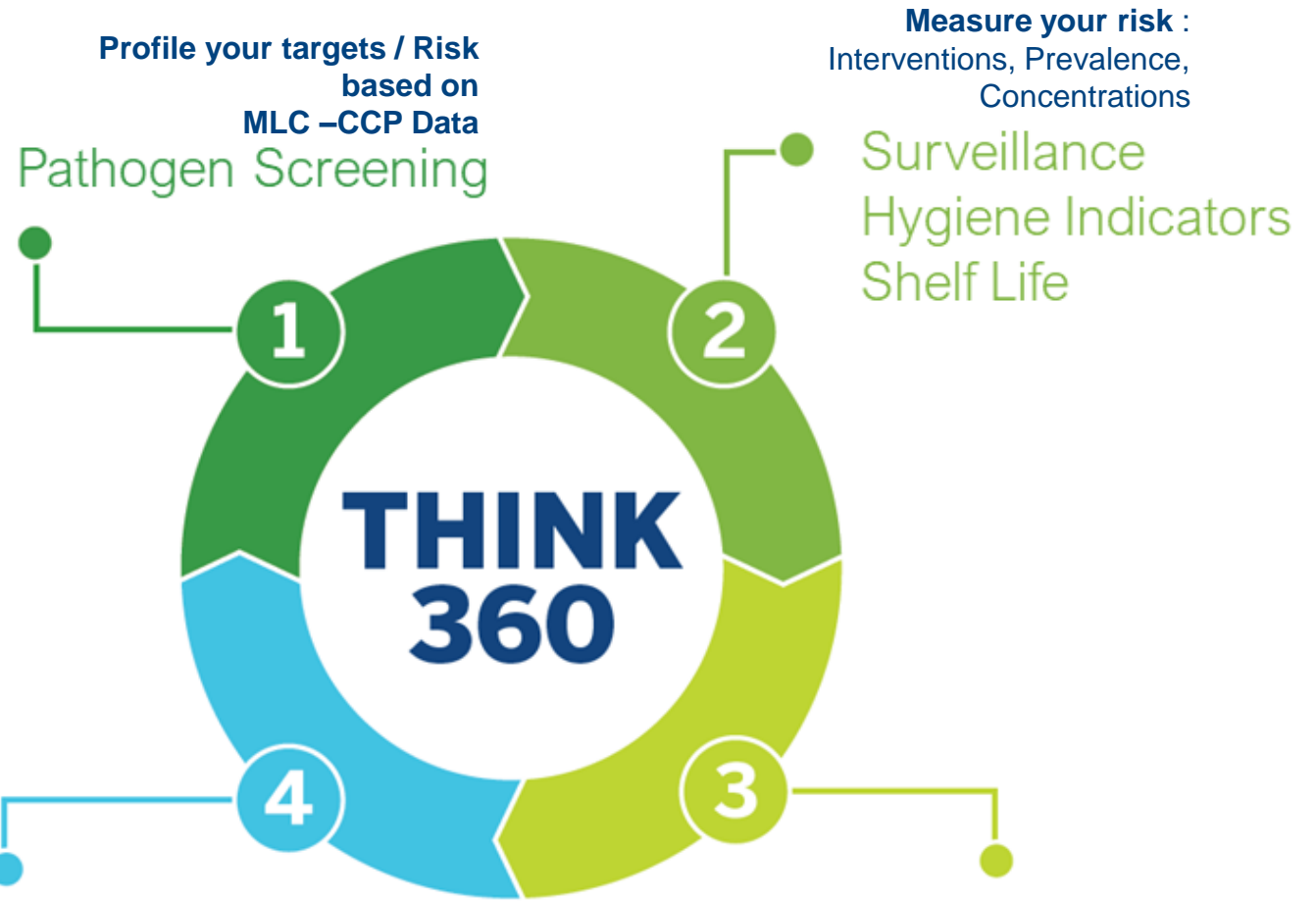+ Market Decision, + Regulatory Demand

Figure 2. Risk ranking of chicken houses based on Salmonella quantification performance at days 28 of production and 4 days prior to processing.

IMAGINE A 360 AUGMENTED DIAGNOSTIC WORLD

Profile your targets / Risk based on MLC –CCP Data
Pathogen Screening

Measure your risk : Interventions, Prevalence, Concentrations
Surveillance
Hygiene Indicators
Shelf Life

Data Integration & Risk Assessment Tools

Root Cause Analysis
Data & Genomics

Improve the Process monitoring interventions, process, parts and Productive Decisions using data from SPC-Performance Indicators

Analyze Risk Baselines: Be in control of your process, deviation, solutions & its environment

RISK — Identify and understand your food safety risk

PREVENTION — Implement appropriate preventative controls

Measurable Food Safety

COMMUNICATION — Communicate risk and preventative controls