



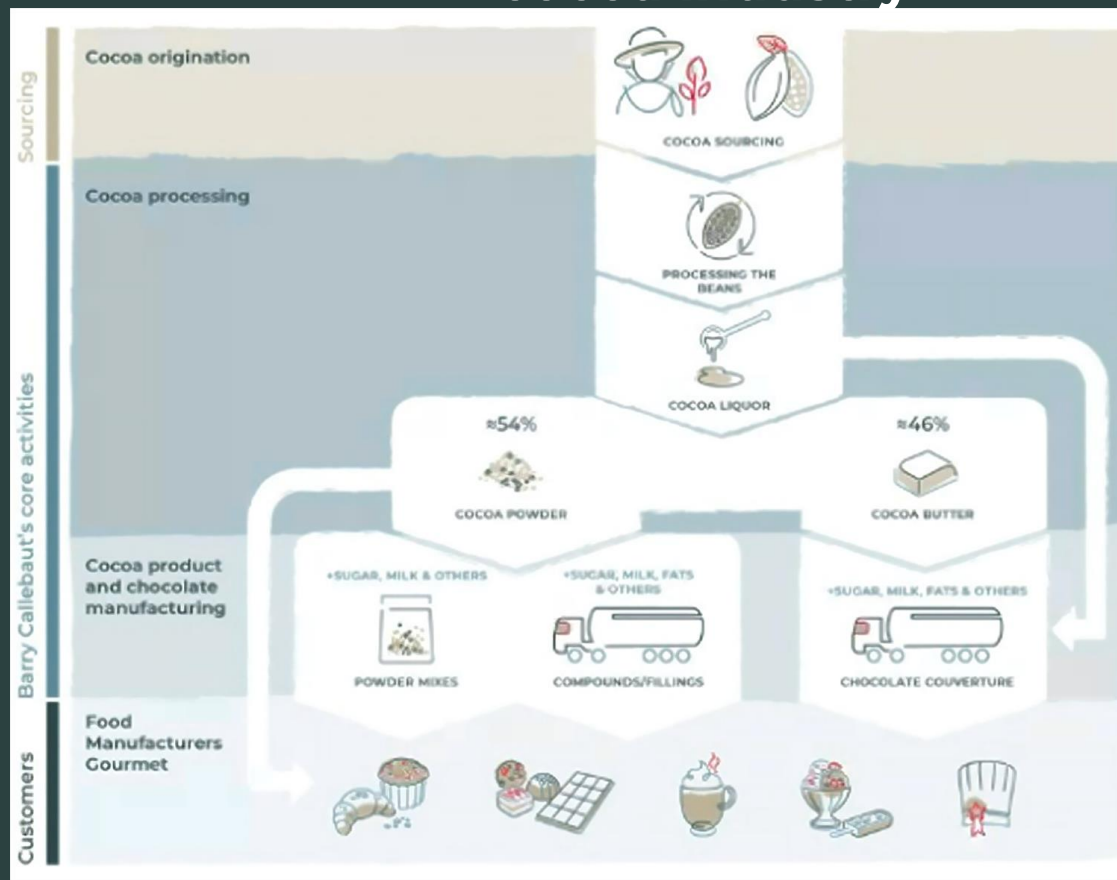
The sweet taste of innovation - Barry Callebaut's digital manufacturing journey

Bram Van Genabet
Corporate Digital Innovation Manager

“Shaping the world of chocolate and cocoa since 1854”

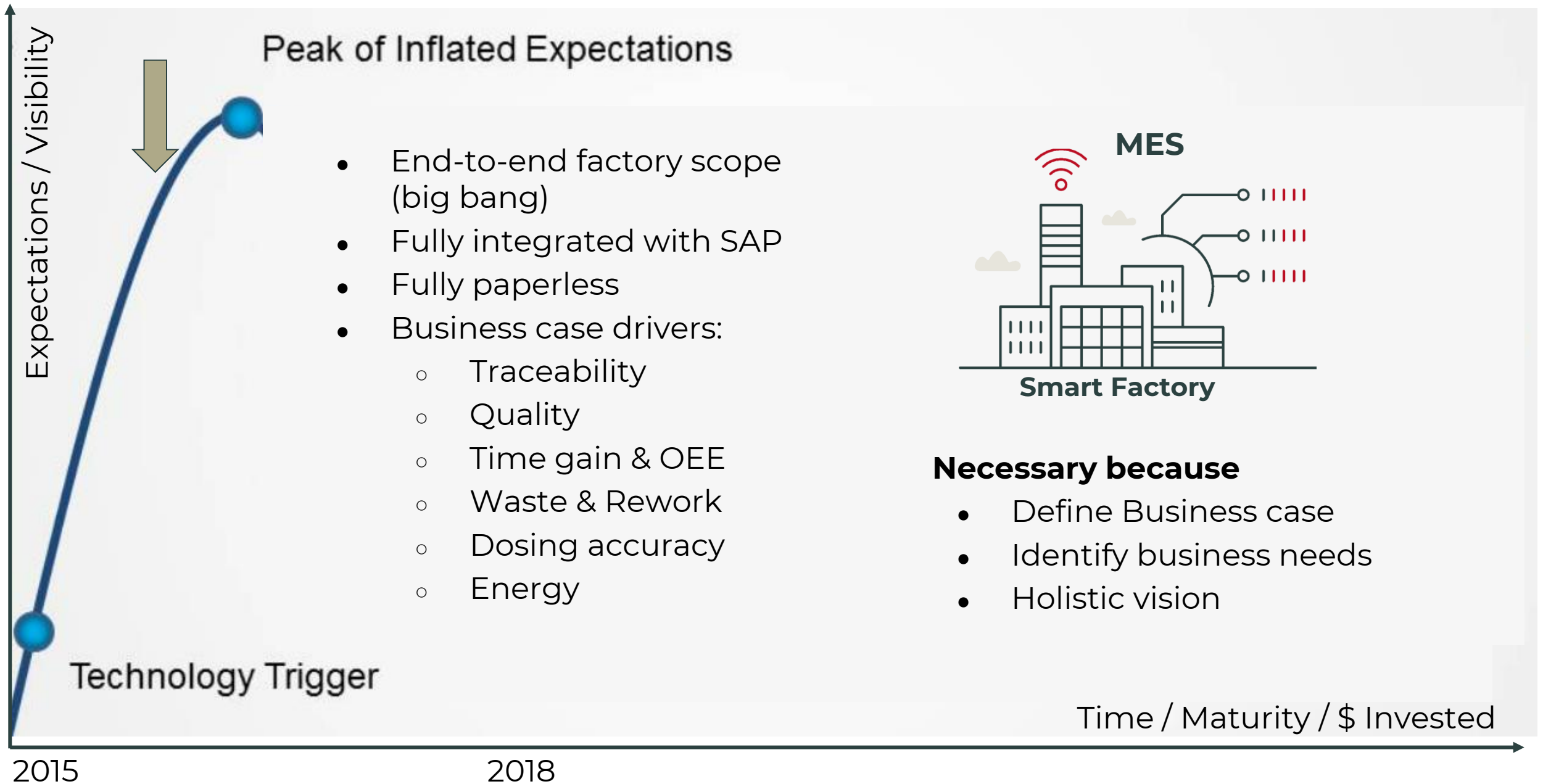


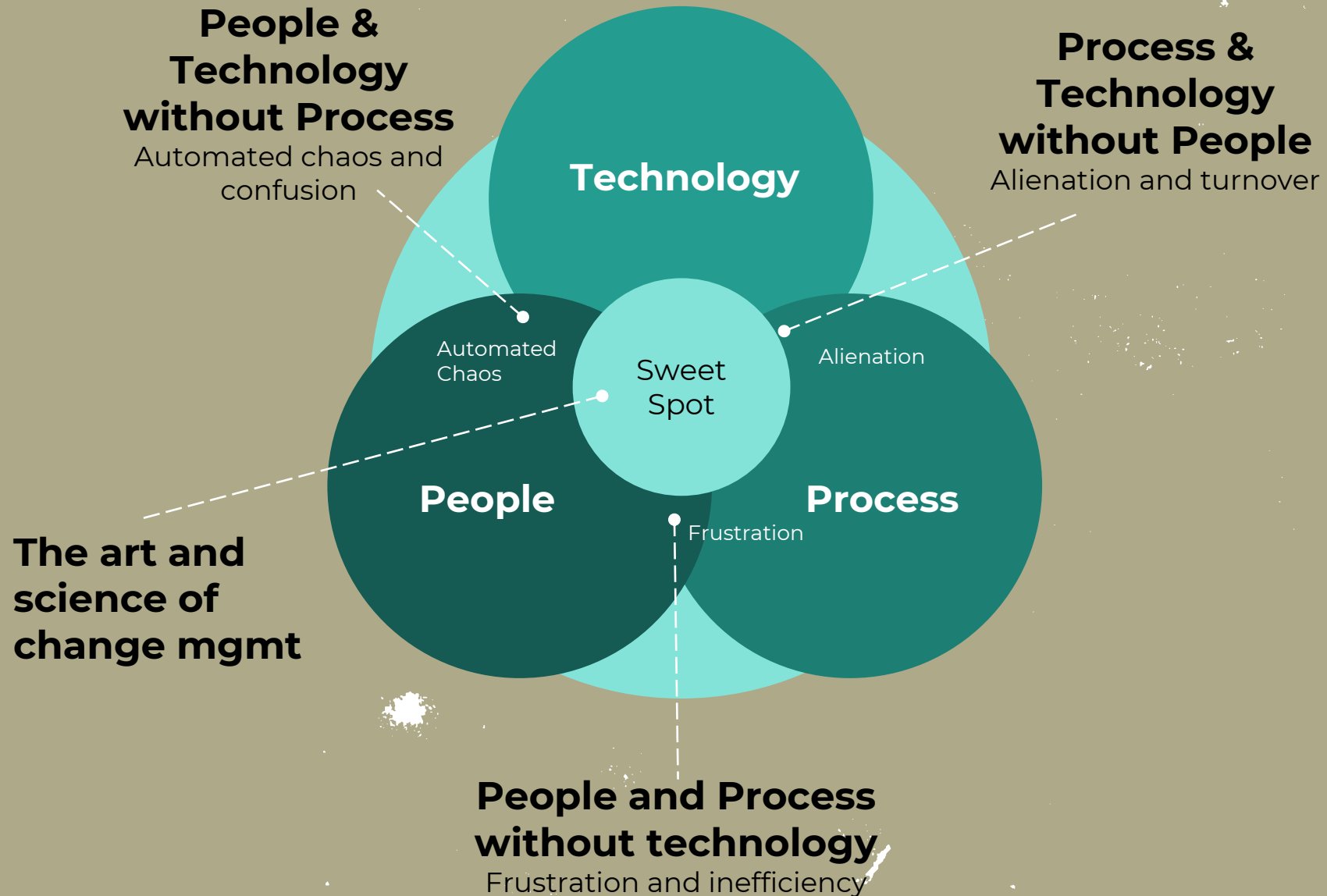
“Barry Callebaut is the heart and engine of the chocolate and cocoa industry”





In autumn 2015 Barry Callebaut selected AVEVA MES & historian as the solution for the digital transformation

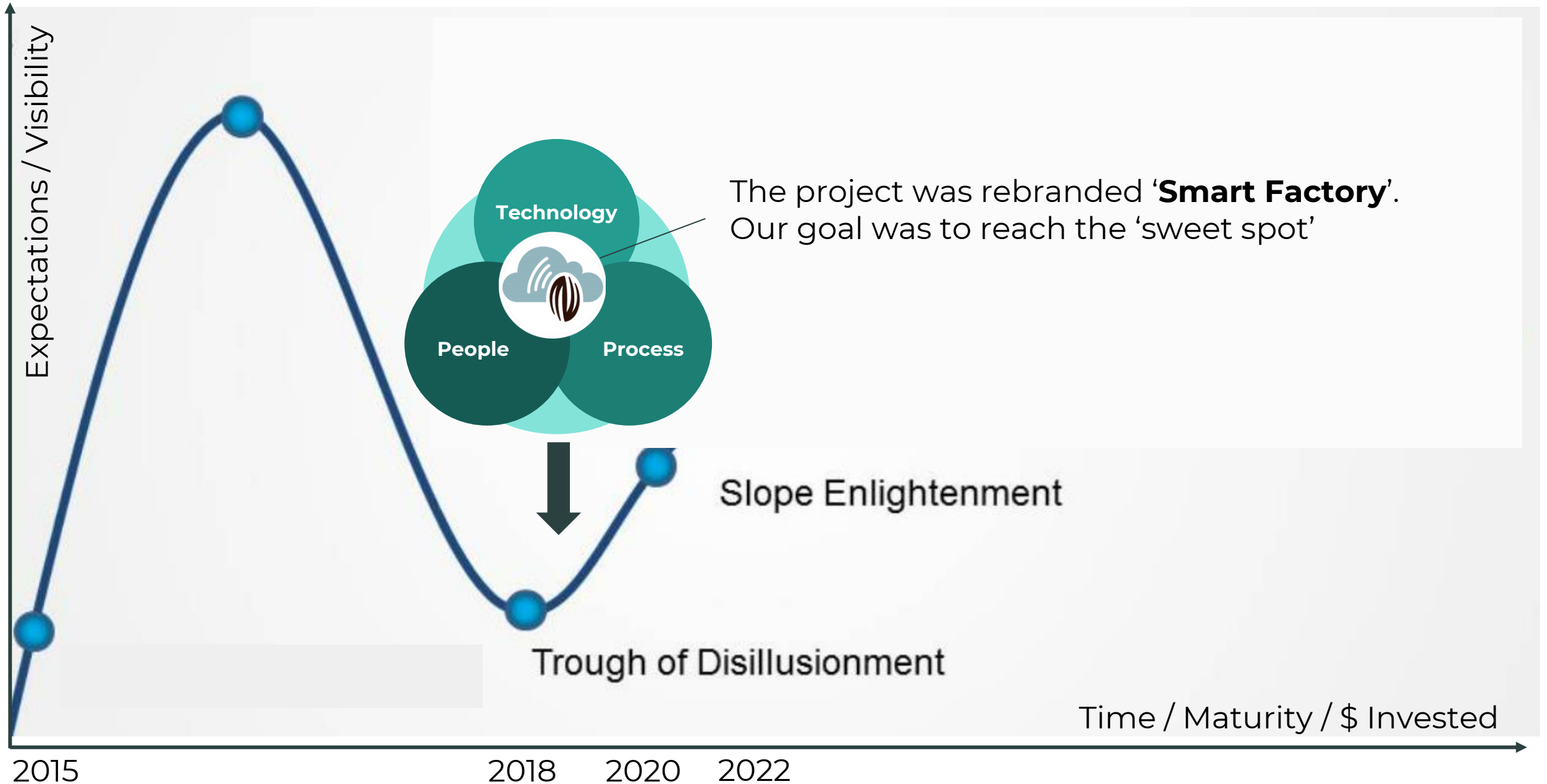




Facing challenges in all 3 domains, technology - people - process brought us to the 'Trough of disillusionment' about 2 years after the start of the project



The most important step in our digital transformation journey was to not give up



3 key learnings supported by our corporate vision were critical in climbing the 'slope of enlightenment'

#1. Modular & Standardized
"One step at a time"

#2. Value Driven
"Always leave them wanting more"

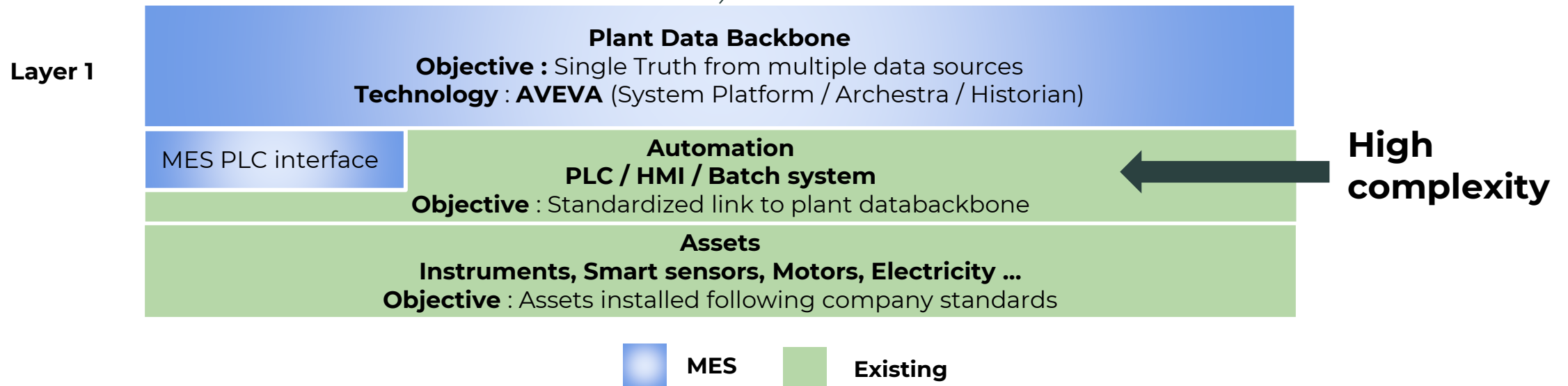
#3. User centric
"Only those adaptable to change survive"



“One step at a time”

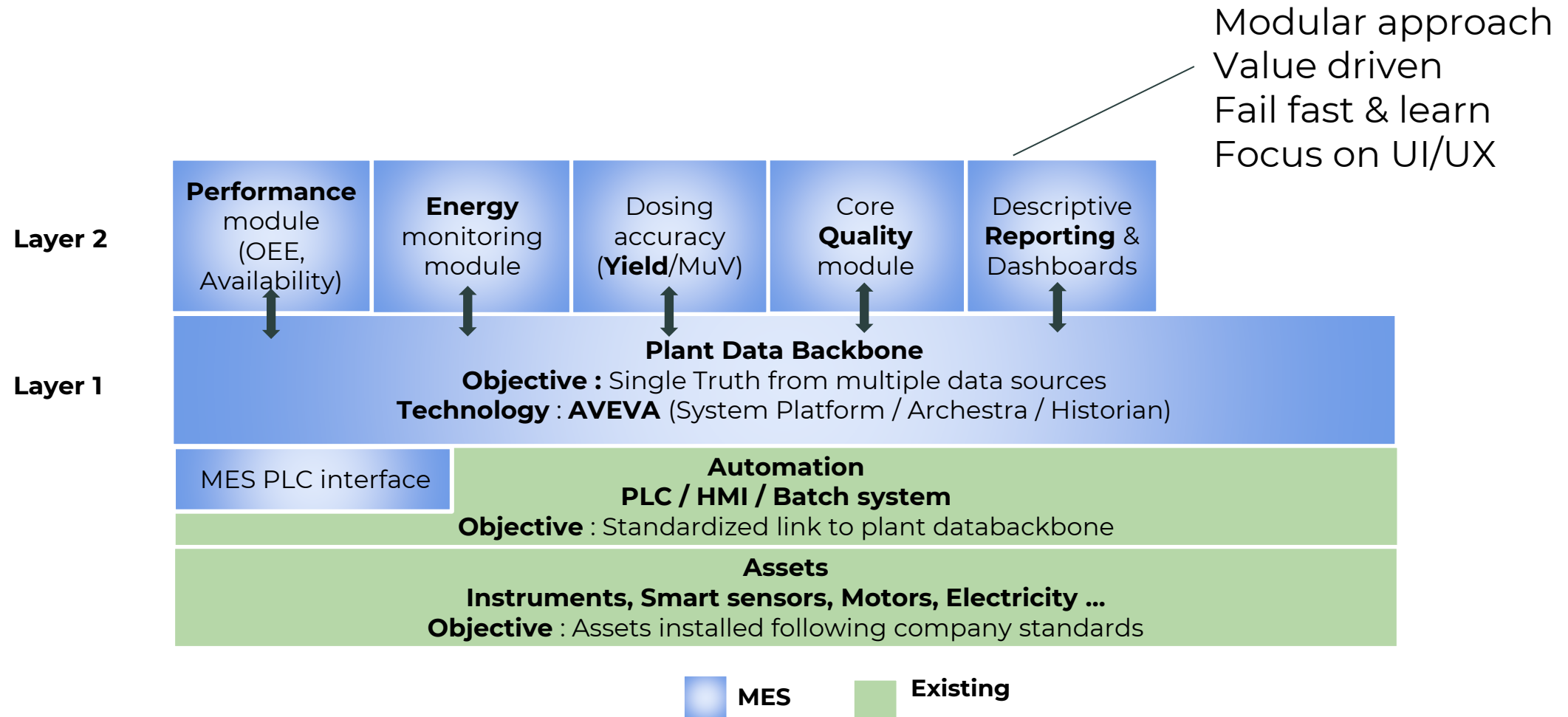
Standardized plant data backbone has been the first step of the Smart Factory strategy

Standardization & Reduce complexity
Data Validation
Skill building
Data as the new oil

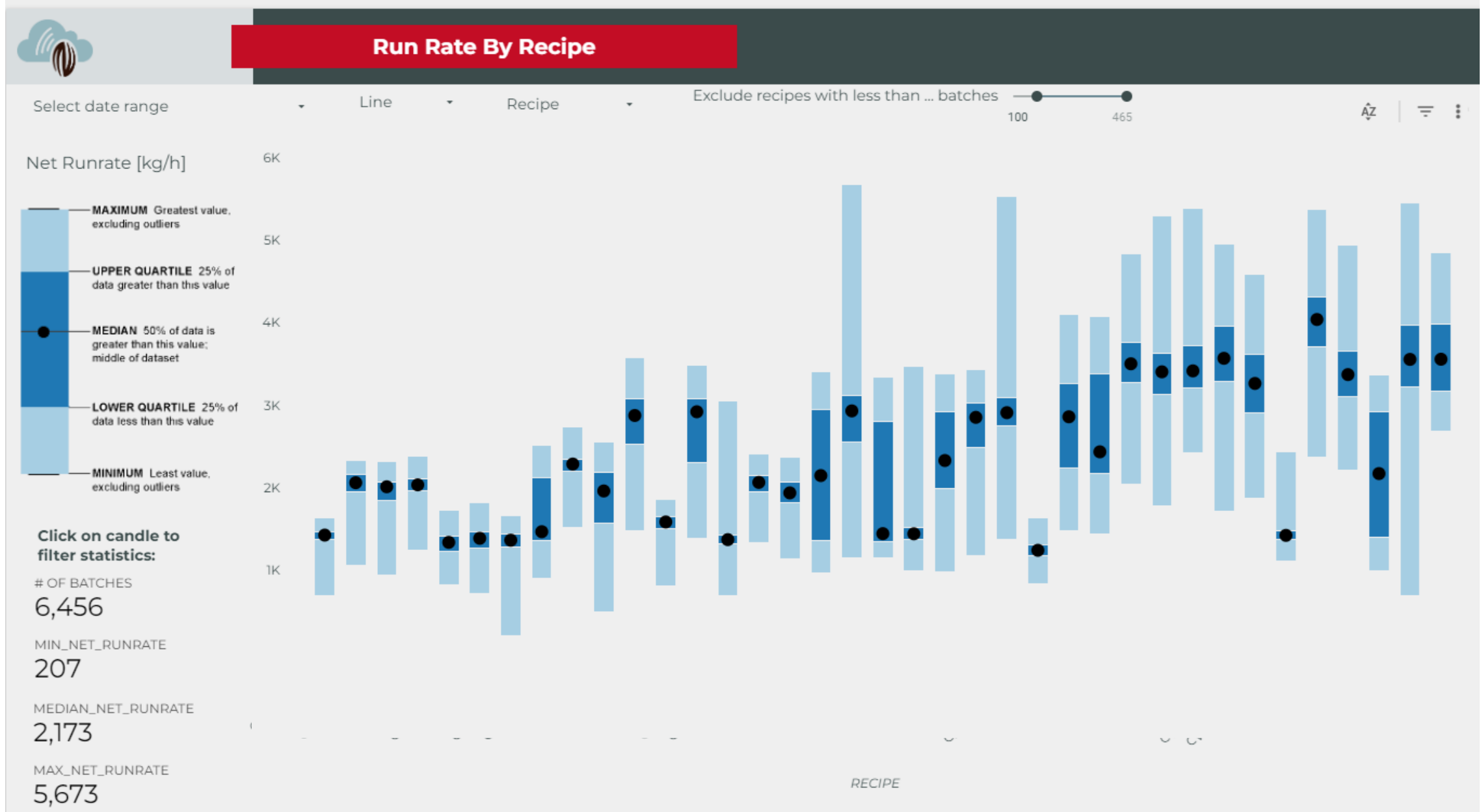


“Always leave them wanting more”

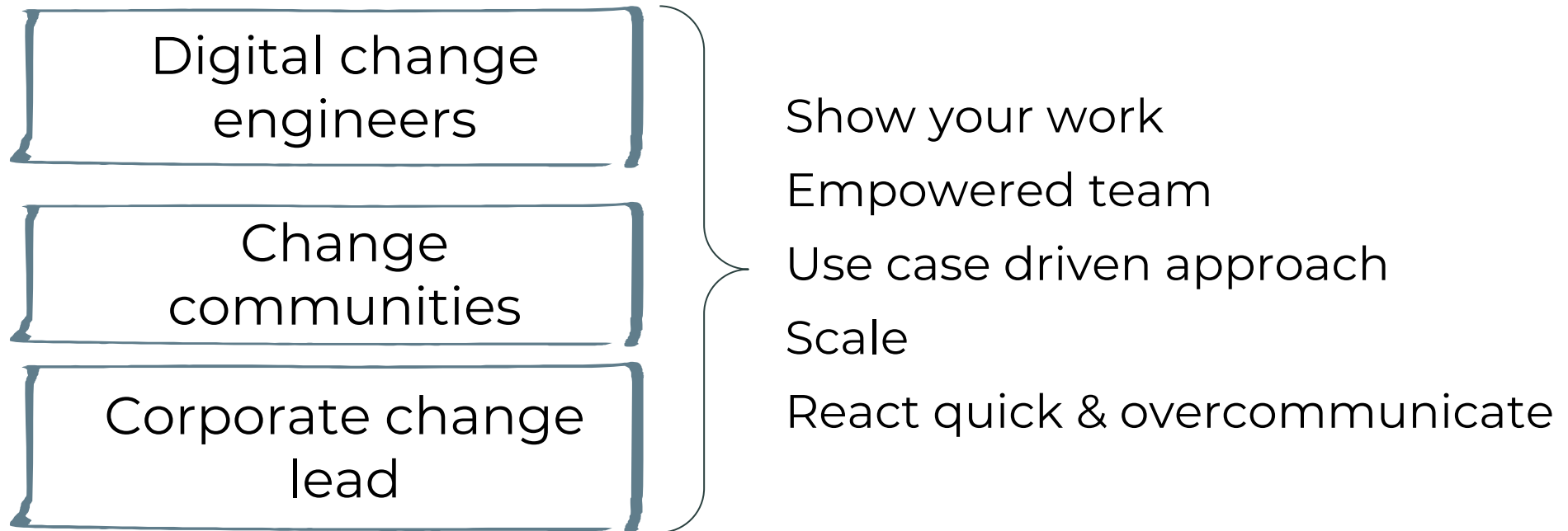
Adopting modular strategy allowed us to focus on the most important value drivers and improve our standard in a more agile way together with carefully selected pilot sites



Data driven insights allowed us to reduce run rate variability and uncover hidden capacity, use cases improving productivity by $\geq 10\%$



“It is not the strongest one who survive,
but the one who is most adaptable to change”



**MES Layer 1&2 is now a global BC standard with proven benefits.
Global rollout is ongoing and expected completion by FY24**

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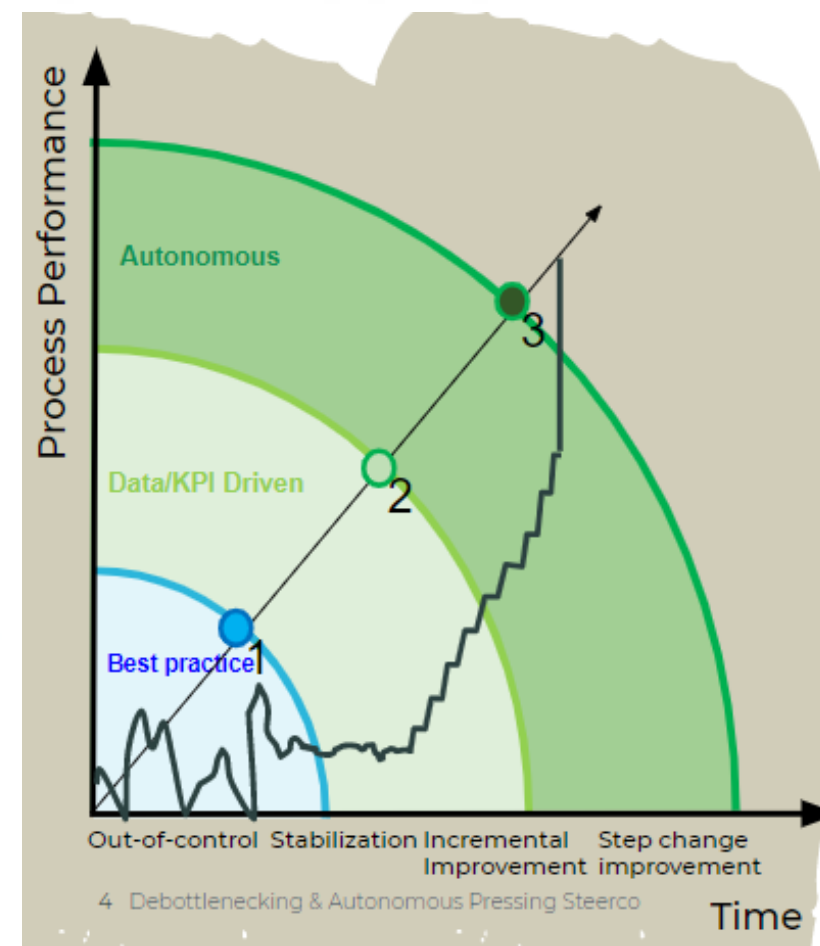
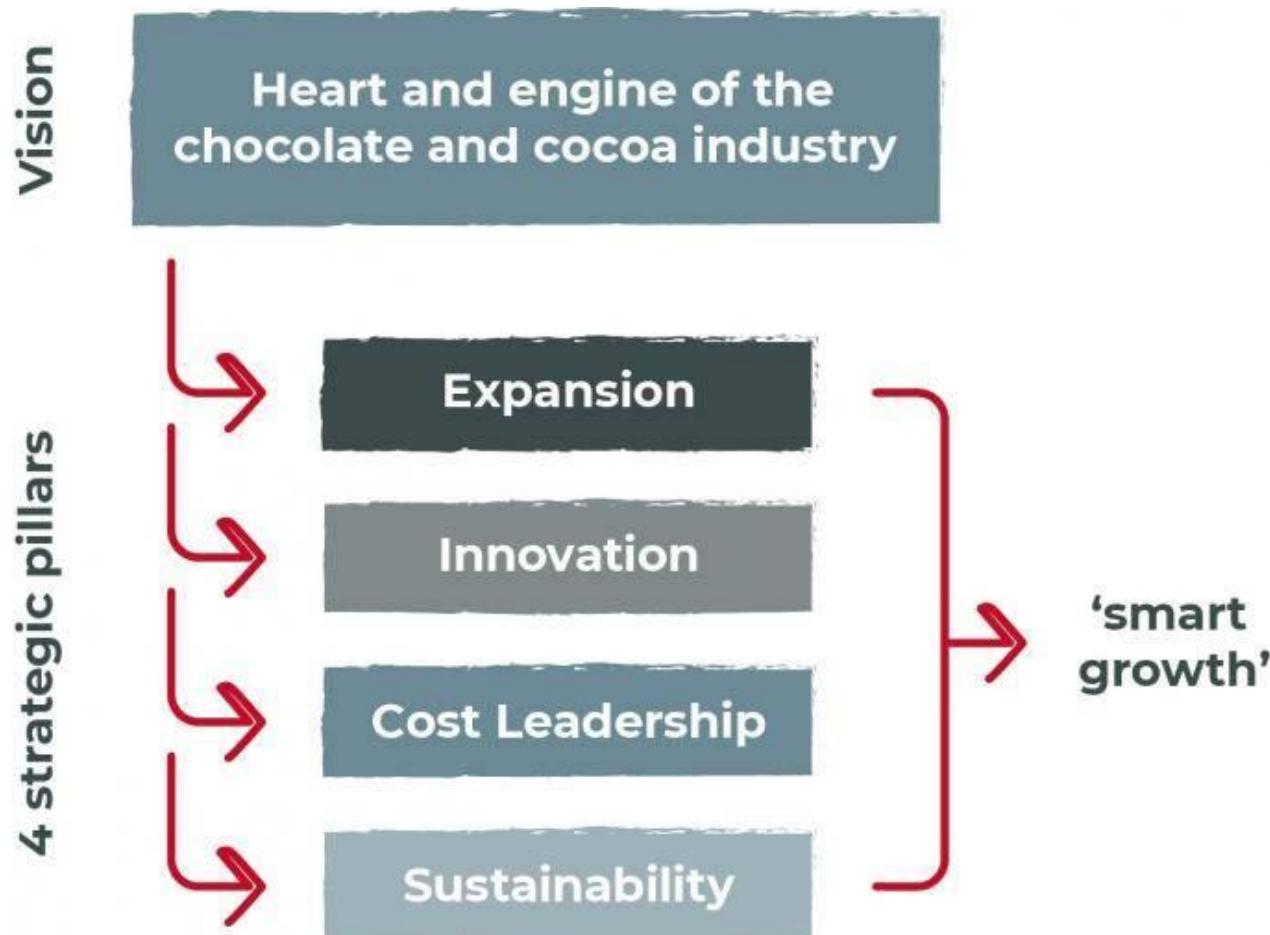
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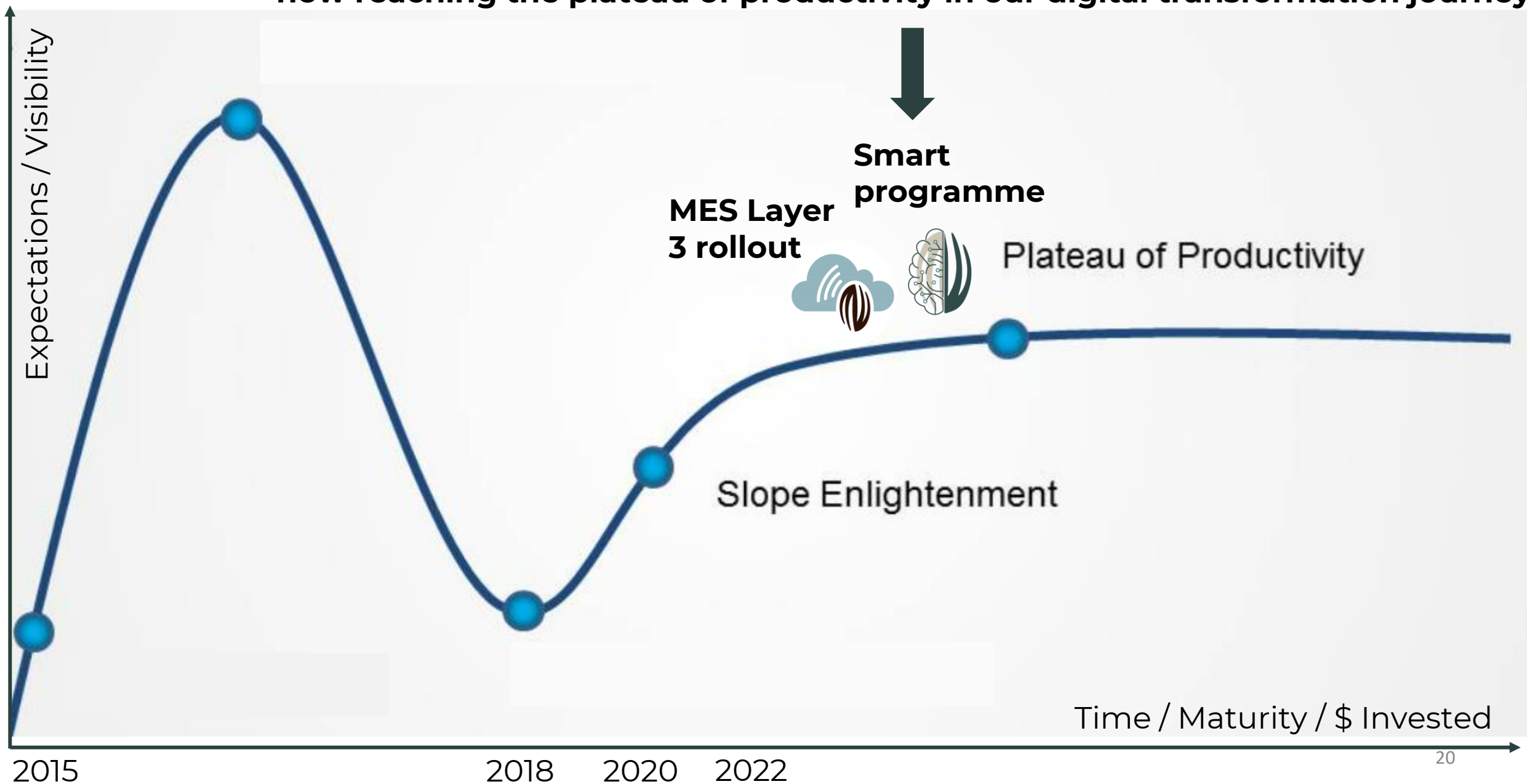
What's next?



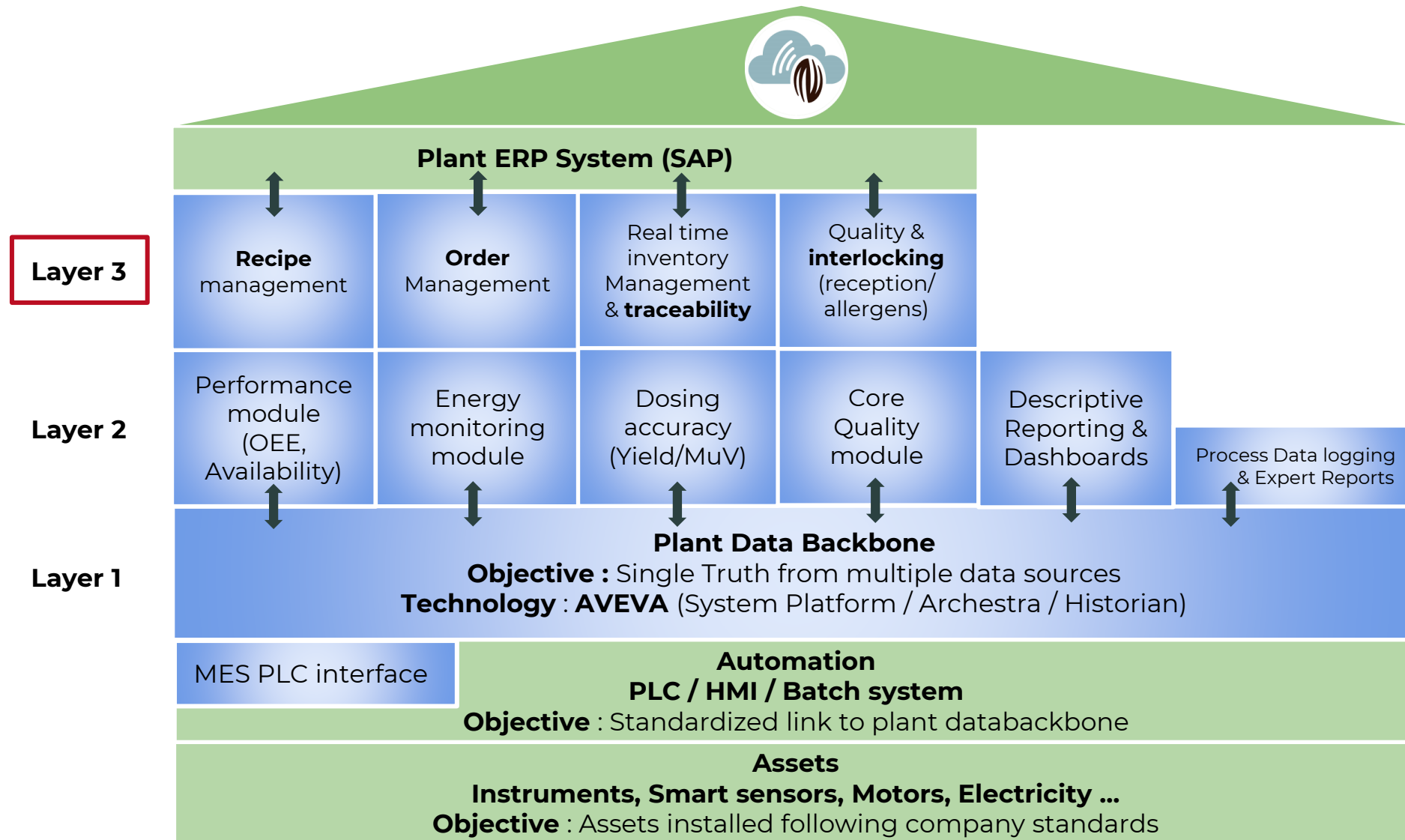
“Our mission is to deliver Smart production lines by 2025 able to consistently produce with zero quality defects at maximum capacity”



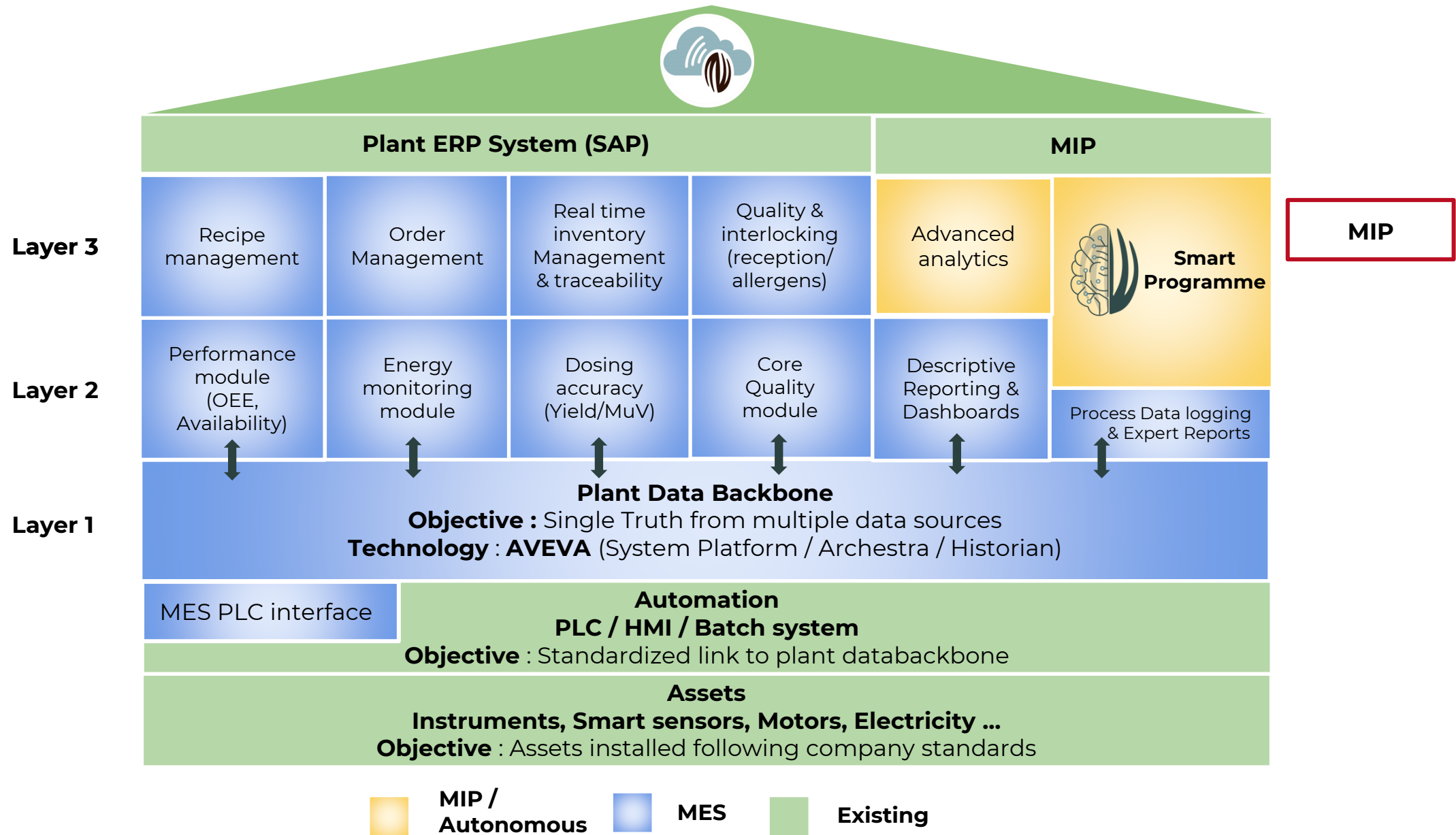
Through the MES Layer 3 implementation and the Smart Programme we are now reaching the plateau of productivity in our digital transformation journey



Layer 3 is the missing link to interconnect ERP with the shop floor bringing us full real time traceability and paperless factories



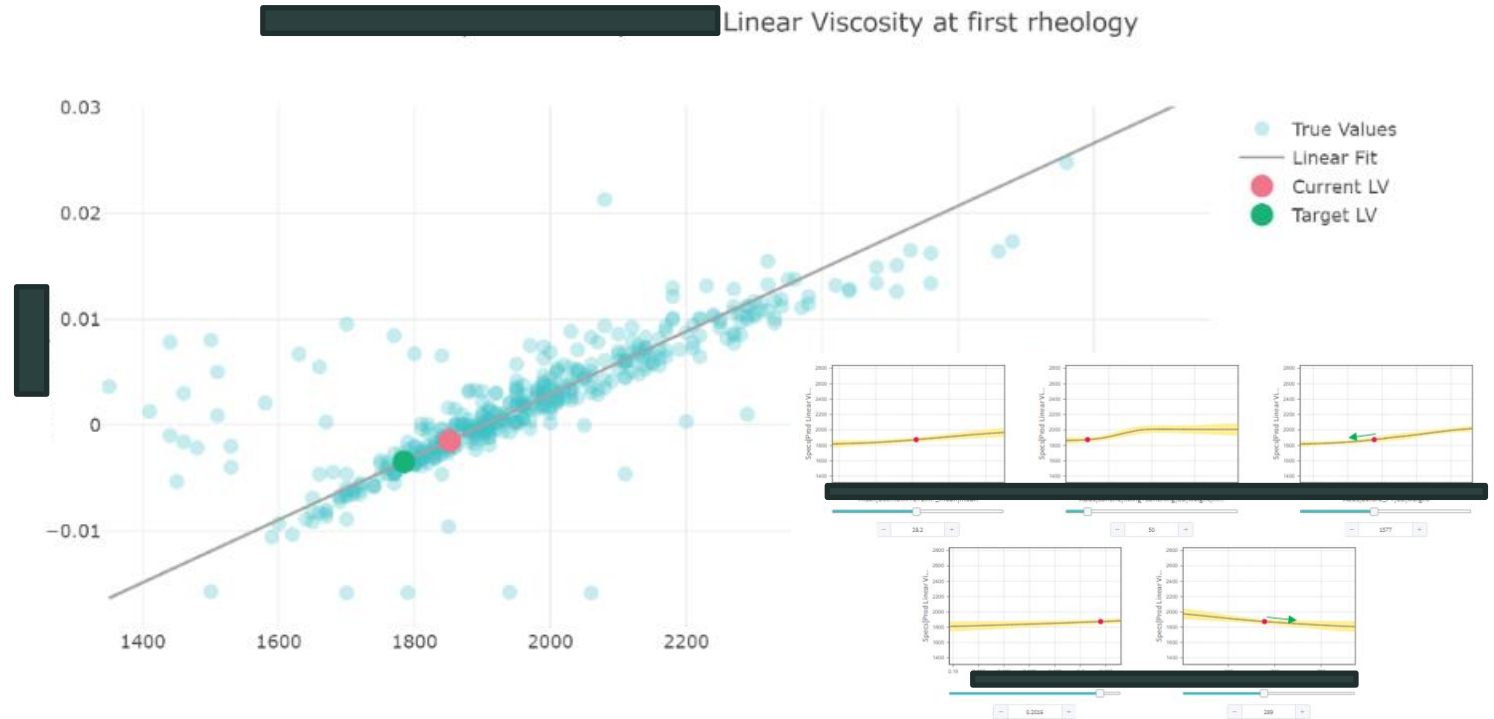
The smart programme is how we leverage our data by building predictive models that give new insights in what impacts our production processes



Smart conching process analysis resulting in improved raw material usage and sustainability

Big data as the new oil

- **18 months** of collected data
- **5000+** process orders
- **7000** analyzed features
- **6** agile iterations



Redefine KPI after first iteration due to new insights

8 low-cost actions with small modifications in process

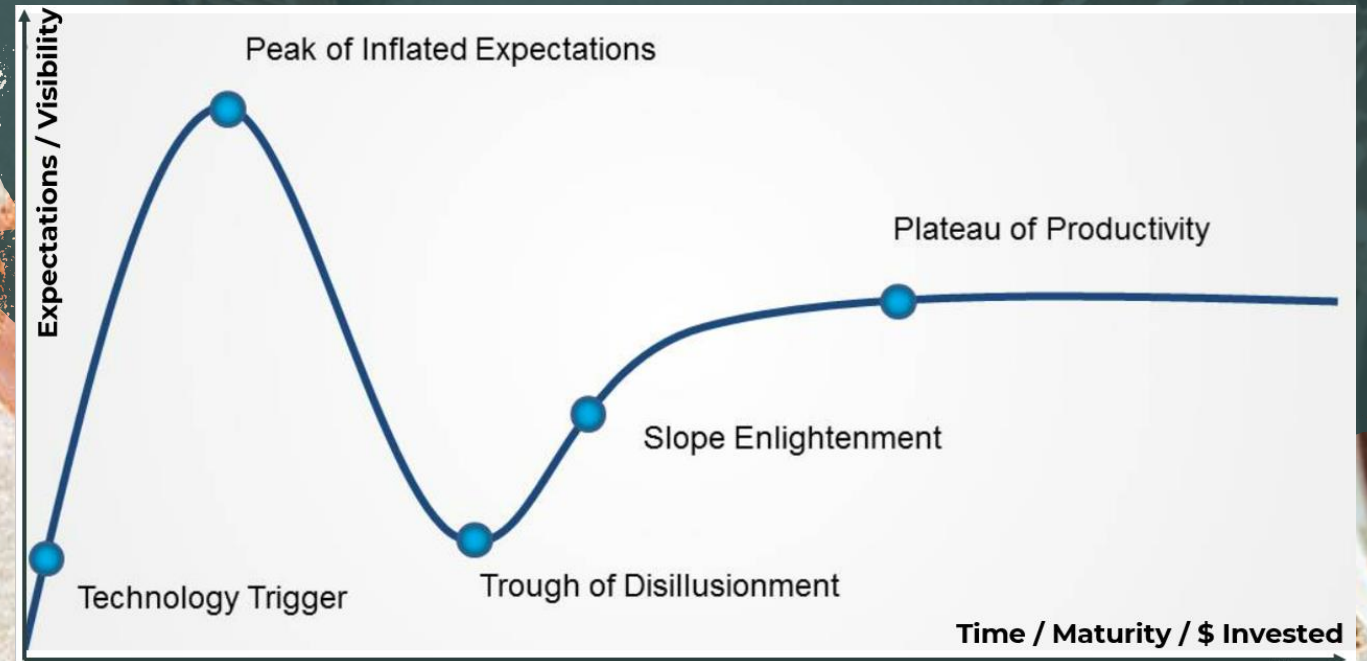
Justified continued investment in sensors & platform leading to exceeding goal by 250%

Take-aways

#1. Modular & Standardized
“One step at a time”

#2. Value Driven
“Always leave them wanting more”

#3. User centric
“Only those adaptable to change survive”



The background is a solid purple color with a white geometric pattern of intersecting lines forming a grid and diagonal crosshairs. The text 'AVEVAWORLD' is centered in the upper half of the image. The 'AVEVA' portion is in white, and the 'WORLD' portion is in a lighter purple color.

AVEVAWORLD

SAN FRANCISCO 2022