

SGS  
Investor Days  
2022



# What we can do with our digital labs

David Plaza, Group Chief Information Officer



# Agenda

- Why digital labs
- Program targets and ambitions
- Roadmap and expectations
- Digital enablers



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# Why digital labs

- More than 1,000 labs and execution systems
- Systems not fully standardize
- Limited level of instruments integration
- Complex data structure
- Difficult to widen business evolutions (hub and spoke model) and scale of new technologies
- Need to drive lab processes standardization.
- Additional workload in the case of internal subcontracting as systems “don’t talk to each other”

Great opportunity to boost productivity in the short- to mid-term and build new data-driven services in the mid- to long-term !!

# Current lab inventory

**1,012**

Laboratory units

**95**

Countries

**47M**

Samples per year

**148M**

Tests per year

LIMS Solution	Labs	% Revenue
SLIM	527	37%
Local LIMS	237	29%
NO LIMS System	104	4%
STARLIMS	41	4%
TW LIMS	38	10%
PROCERT (E&E Labs)	21	6%
LABVANTAGE	13	6%
G6	18	2%
Watson	4	1%
Sofia (Oil Condition Monitoring Labs)	9	1%



Local LIMS			
SAP	Acculims	UNILAB	OnlineLIMS
In House System	LABYNX	Ornithorynque	Labsure
Labas	LABO2000	AxisLims	SPROUT
Labwork	Horizon	Assaynet	MRL LIMS / LMF
VeriLIMS	ILIS	Galsonlims	OTHERS

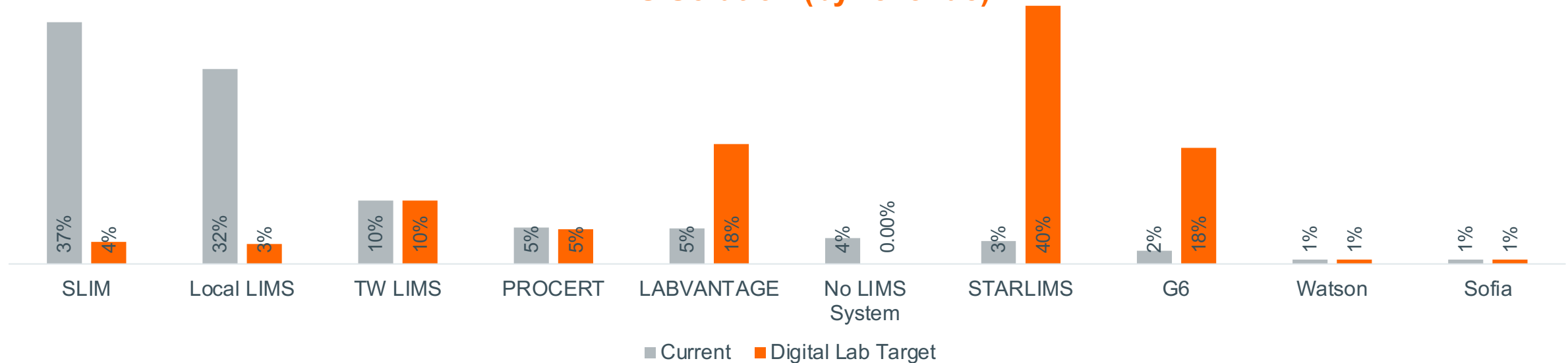
Labs by business	Labs
Connectivity & Products C&P	172
Health & Nutrition H&N	134
Natural Resources NR	491
Industries & Environment I&E	215
<b>TOTAL</b>	<b>1,012</b>

# Current lab inventory

Level of instrument integrations	Labs	% Revenue
High: >80%	227	31%
Medium: 30-80%	172	25%
Low: <30%	613	44%

Level of dependencies on other affiliates	Labs	% Revenue
High: > 20%	155	22%
Medium: 5-20%	183	23%
Low: < 5%	672	55%

LIMS Solution (by revenue)



4 technologies supporting 7 global digital lab platforms

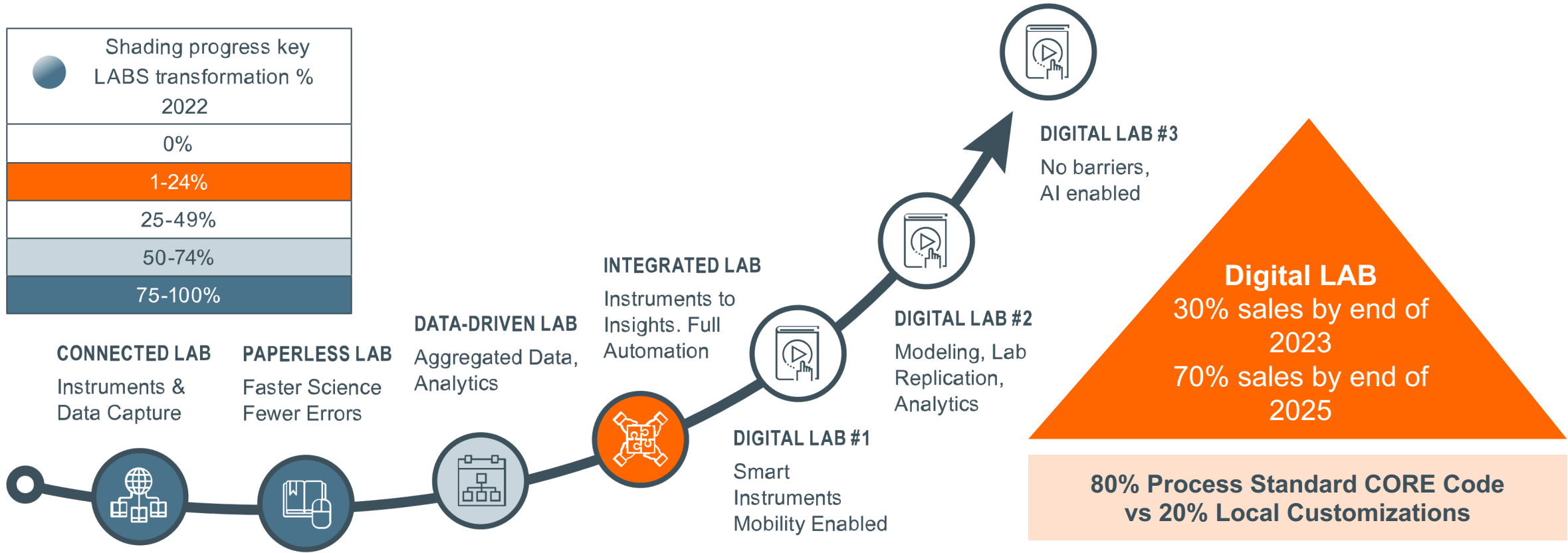


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# Program targets and ambitions

Shading progress key LABS transformation % 2022	
0%	
1-24%	
25-49%	
50-74%	
75-100%	



## 1 - Lay the foundation – today

Simplify, Comply & Secure.  
Capture & Automate



## 2 - Lab transformation – 2023/2024

Optimize, Harmonize Processes  
End-to-End. Leverage Analytics

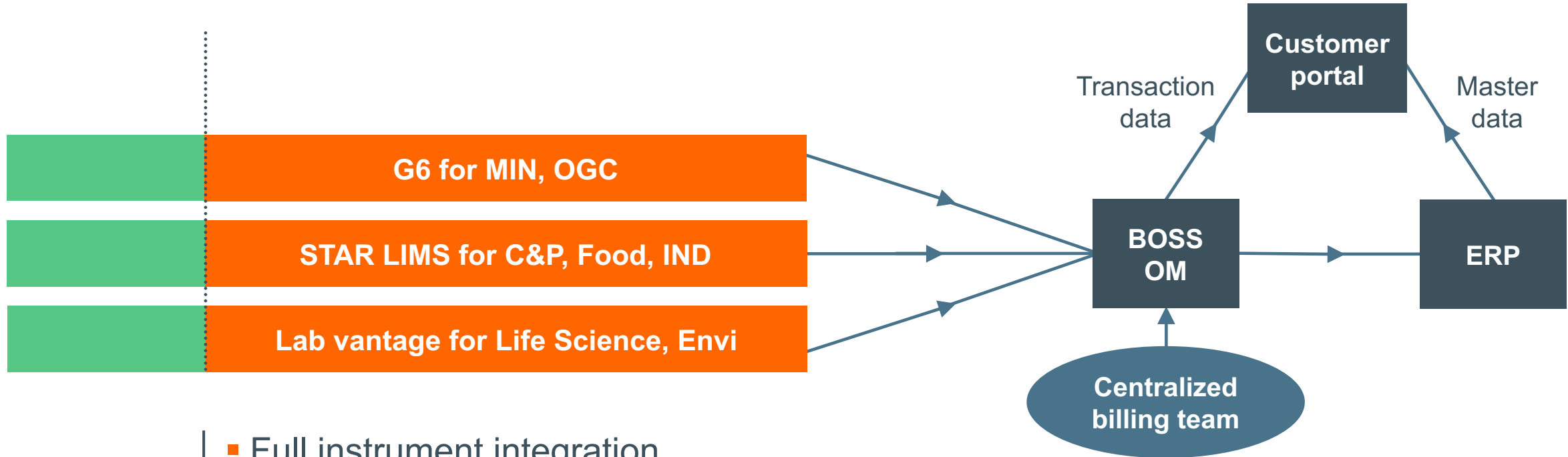


## 3 - Lab automation – 2024 >

Automate & Use AI to continue  
transformation



# Digital labs architecture



Sample self registration (optional)

- Full instrument integration
- Global platform (cross-border activities)
- Common data assets
- Future enhancement being part of future release upgrades:
  - AI/ML opportunities
  - Sample self-registration portal
  - Single customer portal

# Transition to digital lab will provide initially 10% productivity increase per lab

Assumption on actual status	Level	Definition	Efficiency gain %
On board productivity		New generation Lims adoption	5
Instrument interface	High	Already full integrated (>80% data via instruments interface)	0
	Medium	Average integration (30-80% data via instruments interface)	5
	Low	Full integration required (<30% data via instruments interface)	10
Subcontracting	High	More than 20% dependencies on other affiliates	5
	Medium	Up to 20% dependencies on other affiliates	2
	Low	No dependencies on other affiliates	0
Constant release upgrades		(Only considered from 2024)	++

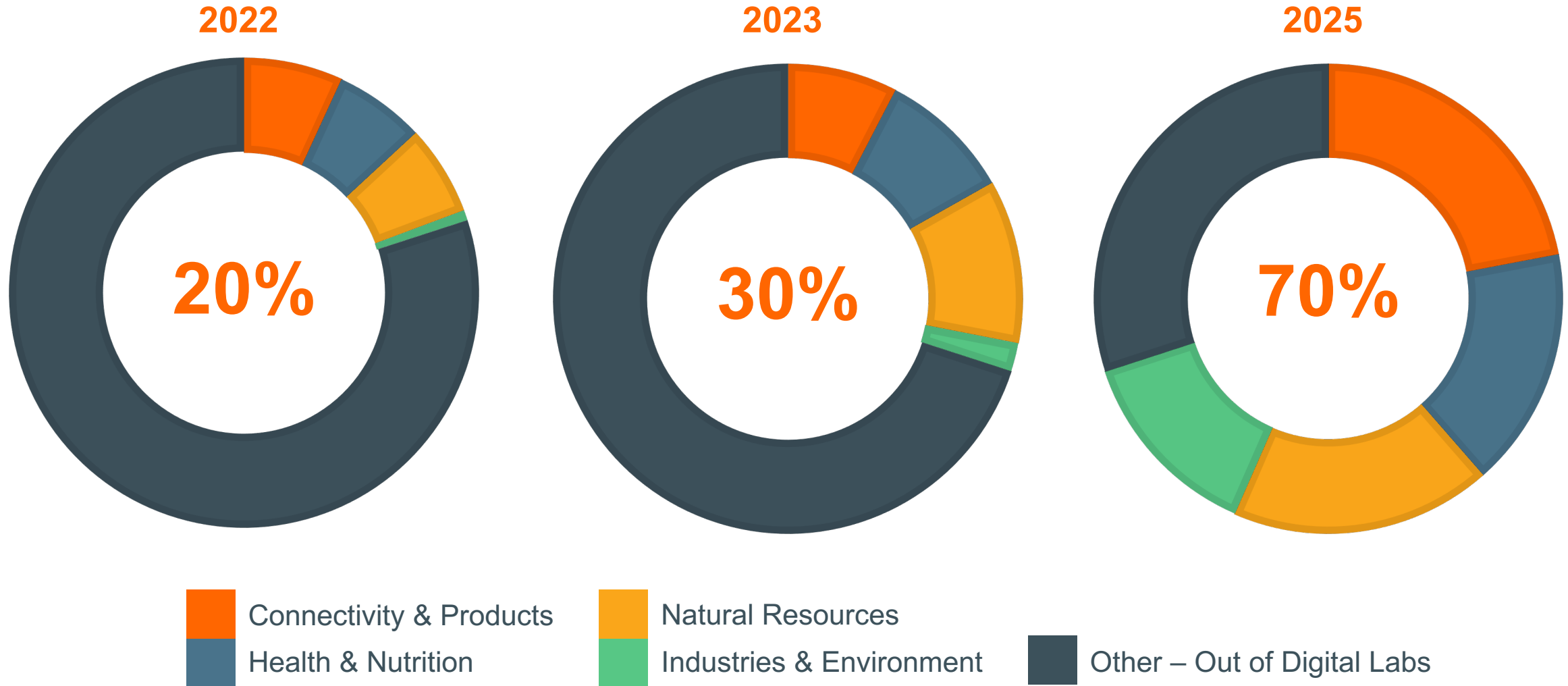
- Productivity increase target ( samples/FTE, tests/FTE....) will be agreed during the rollout process and targeted to be achieved nine months from go live, progress is tracked and followed by the global teams
- Digital Lab is based in common cloud technologies, so every release upgrade will bring additional functionalities and productivity gains for all the labs in the program at the same time



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# Digital lab rollout



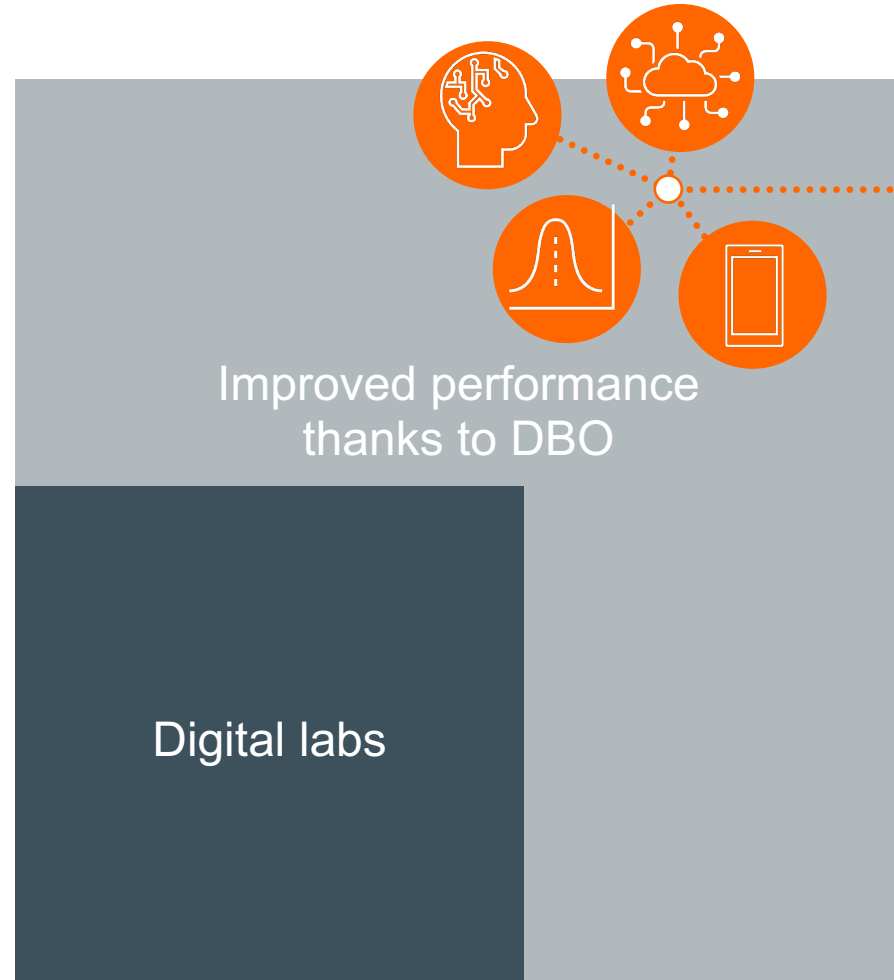


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# Digital builders | fast track for innovation in the labs

DBO's capabilities and expertise are also available for digital labs



## The DBO will complement digital labs



**New IT solutions** – improve Digital Labs operations, experience and outcomes by jointly developing new solutions, leveraging on DBO's capabilities.



**Cross-fertilization** – provide knowhow and expertise based on the DBO's transversal vision achieved through the participation of all the BUs.



**New talent** – make available to Digital Labs technological and data-driven profiles from the DBO (internal and external FTEs) that have adopted new ways of working such as agile methodology and design thinking.



**Cultural change** – rely on the Digital culture adoption and acceleration by joining the DBO initiatives (workshops, change management events, etc.)



# Global sample tracking app

## Make lab sample monitoring more efficient

Mobile app that enables lab technicians to locate samples, ensures sample storage and chain of custody, reconstructs the sample traceability experience.



### Sample scanning

Users can check in, check out, deplete and dispose of a sample by scanning, as well as searching for information about samples.



### Sample status

Sample status indicates which process level a sample is currently in, input by the user in real time.



### Tracking levels

Samples are categorized by container and aliquots, with a respective location defined for each sample.



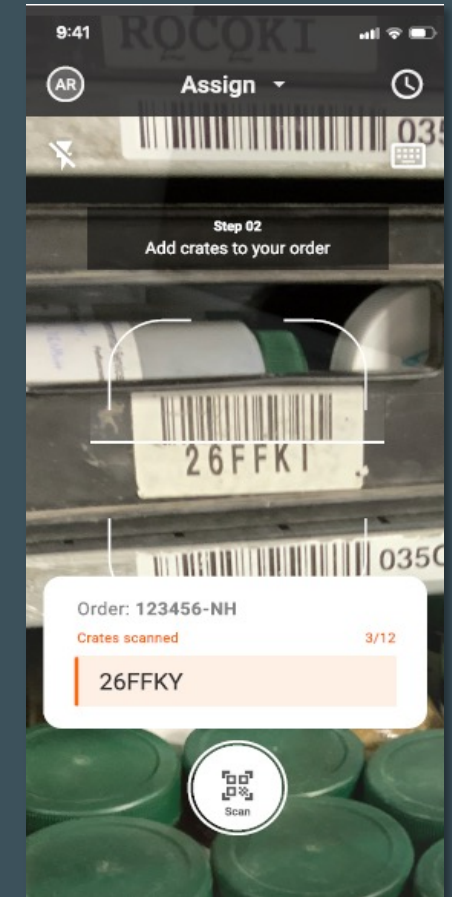
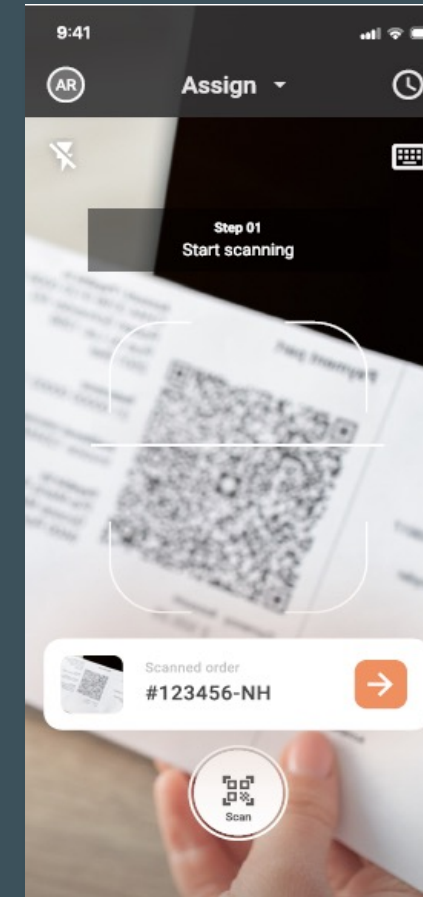
### Sample location definition

Locations are defined by the relevant identifier: building, room, rack, shelf, crate.



### Other features

Available on App Store & Google Play, integrated with the three LIMS, offline availability.





# Global laboratory customer digital experience

## Make the lab customer experience smoother

Global Customer Portal solution for all business lines, a customizable and scalable product that can be tailored to the different business specificities as well as geographies.



### Lab product & service order

Submit service requests to laboratories, or purchase products autonomously.



### Proposal

The order can be saved as a proposal to be sent to the sales team.



### Request & shipment tracking

Customers can track the progress of their requests and shipment in real-time without having to contact laboratory staff.



### Support

Communication tool with SGS support service.



### Document management

Customers can instantly view and download test reports, certifications and invoices as they are issued by the laboratory.







# Process mining

## Define best processes allowing comparison between different lab setups

Ensure e2e and streamline processes, to achieve the highest efficiency.



### Process standardization

Identification of standard process violations, root cause analysis and evaluation of their impact on lab KPIs.



### Process bottlenecks

Identification of process steps that are impacting overall performance.



### Benchmarking

Immediate comparison between laboratories' processes and KPIs with differences identification.



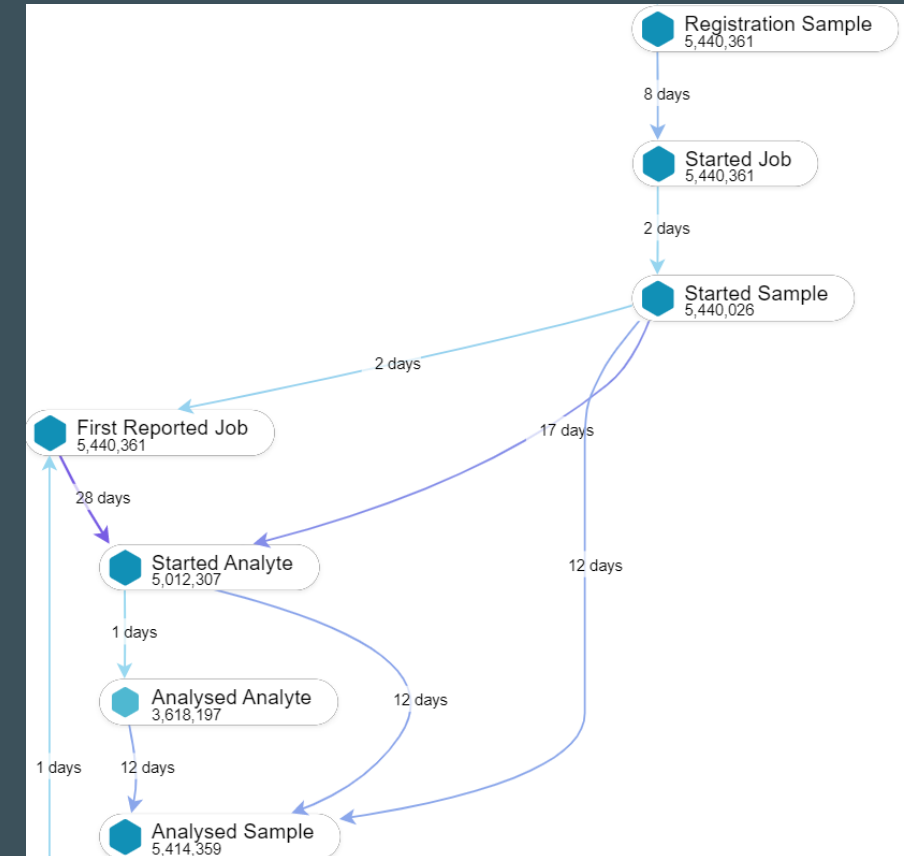
### Process design

Process workflow variations identified based on data and supporting process change design.



### Key results

Process improvement with focus on what really matters in terms of business benefit, with estimation of the cost saving.





# Global data mart for lab data

## Leverage on the global amount of SGS Data

Consolidate, classify and make data accessible to apply insights and new technologies.



### Consolidate view of all data coming from labs

Leveraging the global platform capabilities.



### Data monetization

SGS data will become a very valuable assets, since we have a unique position in the market.



### Use of new technologies

Applying ML/IA to find insights and potential business gaps.



### New KPI

Efficiency will be driven by new set of KPI, setting up new global targets.





# AI cosmetics trial tool

## Making clinical trial process qualifications more efficient

The solution aims to **digitize the clinical trials qualification process** through **ML facial analysis** of candidates. This tool will bring significant cost and time reductions as 50% of users going to clinical trials are not eligible.



### Web app

Users log in to the application and take a selfie using the SGS responsive test qualification web application.



### Selfie functionality

The App calls the real-time inference endpoint, sending the selfie image to obtain a prediction.



### ML model prediction

The ML serving layer responds with the result and this is sent back to the App UI.



### User report

The user sees a report with the analysis result, the categorical conclusion (mild, moderate, severe) and instructions for next steps.



### Dashboard

Administrators access a dashboard to monitor application usage and evaluate the results provided by the models.



# Asbestos detection

## Improve productivity of lab experts

Lab experts review microscopy images for manual selection of potential asbestos fibers. AI can propose fibers to analyze, including a chemical validation point, to confirm if it is asbestos.



Lab experts review microscopy images for manual selection of potential asbestos fibers.



Images and the locations of fibers and validation points have been gathered with the lab to train multiple AI models.



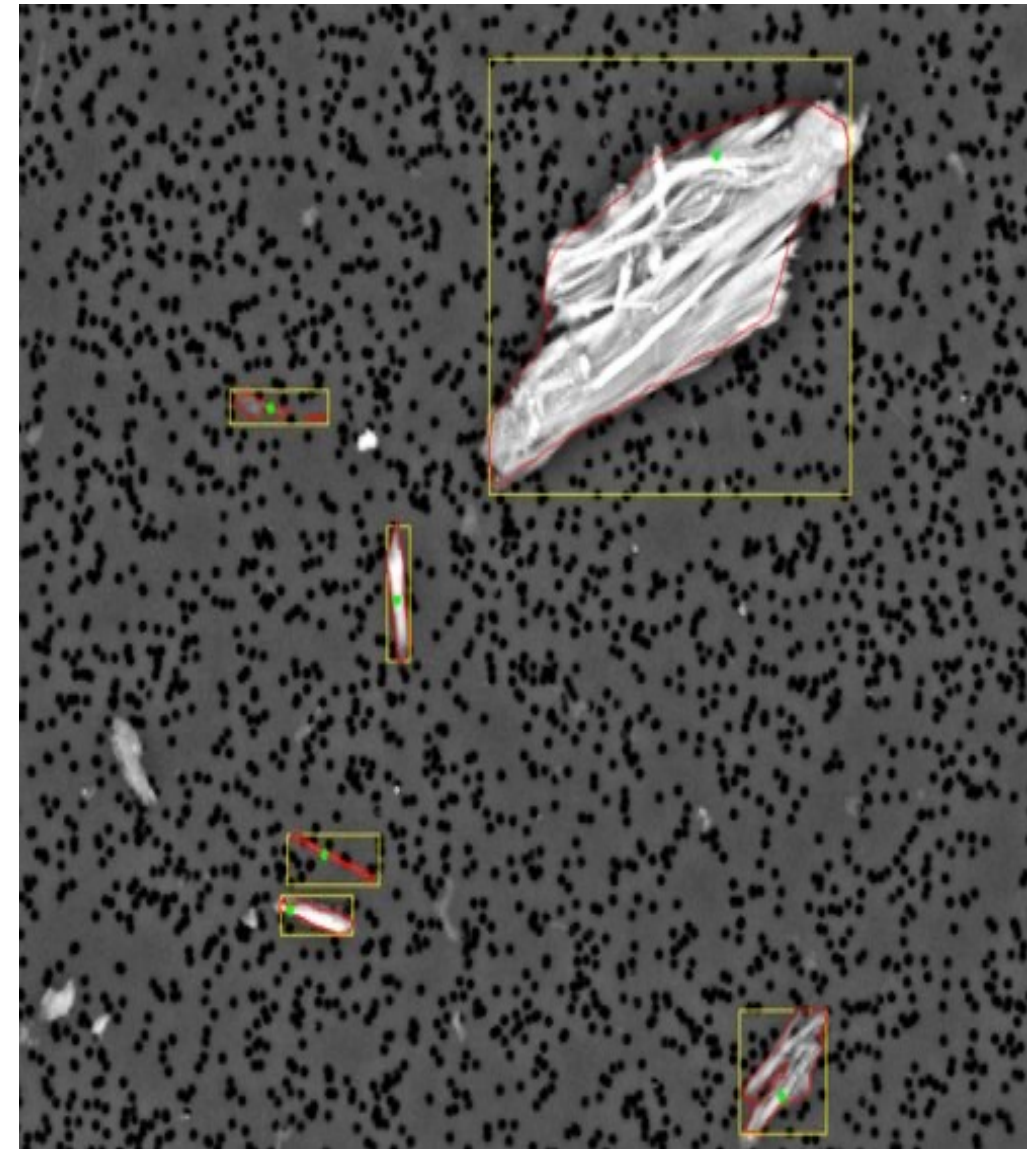
Lab experts review microscopy images for manual selection of potential asbestos fibers.



The AI model is deployed in the cloud and prepared to be integrated with lab equipment software.



The goal is to achieve a minimum of 16 hours for instrument running, with no additional FTE, while increasing quality compared to manual optical microscopy.



# Questions?

