

Transparent, sustainable and cost-effective: the GS1 SMART-Box in manufacturers to retail networks

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GS1 Germany at a glance

The Global GS1 Network

International, non-overlapping and industry-independent



- 150 out of more than 190 countries around the world use GS1 standards
- over 1 million companies in the GS1 system
- 112 member organisations (MO)
- GS1 Germany is the second-largest MO
- Global Office based in: Brussels
- International networking: GS1 in Europe, Consumer Goods Forum, Global Standards Management Process

Facts & figures

- Private-sector, not-for-profit company based in Cologne, Germany
- 1974: Founded as the "Centrale for Coorganisation" (CCG)
- 2005: Renamed GS1 Germany
- Managing Director: Thomas Fell
- About 56,000 customers in 2017
- Over 180 employees, including ownership interests and subsidiaries over 400 employees
- Partner: EHI Retail Institute and the German Brands Association (Markenverband)
- Core product: The barcode and other globally applicable identification, communication and process standards



GS1 Germany on the international stage

Local meets global

- A goal without borders: A global communication system for all partners of the value chain.
- Making cross-border goods and data streams more transparent and safer – for the benefit of the economy and consumers.
- GS1 Germany embodies the requirements of German companies in international standards and solutions.



The GS1 SMART-Box project

From concept development to implementation

Look back

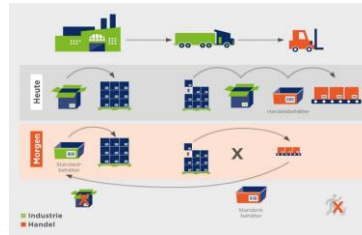
Baseline Situation

- Large diversity in the containers used
- Proprietary box-systems in closed, company-owned cycles
- No returnable cycles between industry and retail



Objective/Motivation

- Optimization of processes and costs
- Savings in material costs
- Better utilization of freight space
- Reducing CO₂ emissions



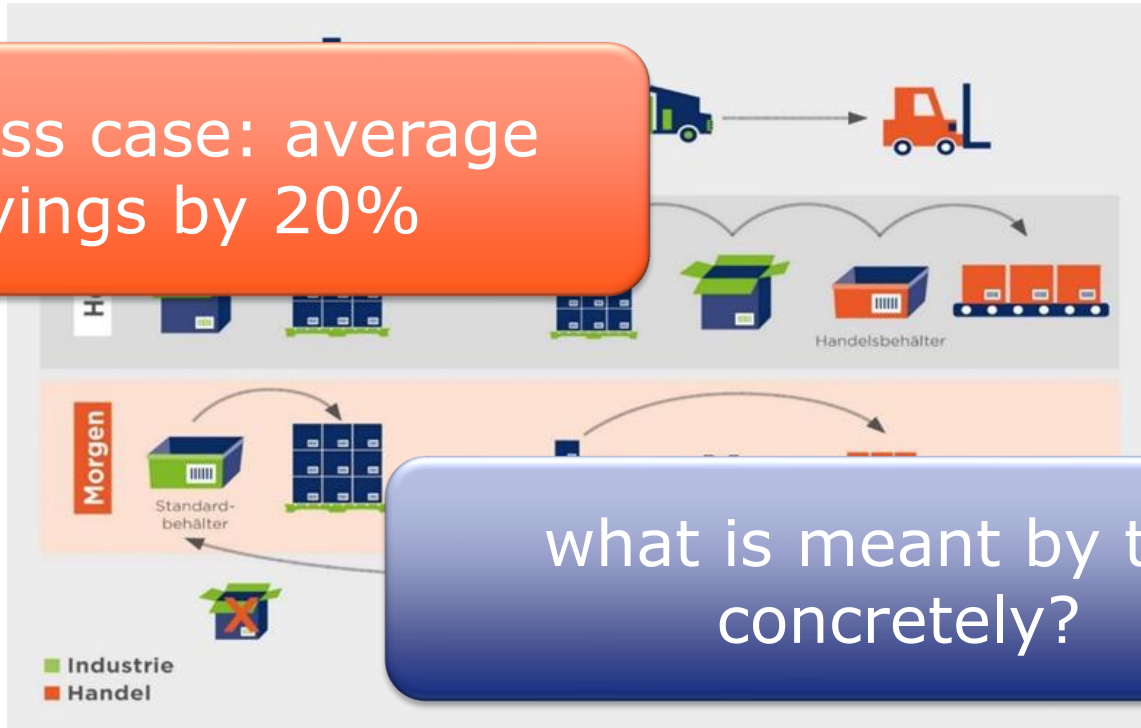
Steps done

- Checking technical feasibility
- Carry out a pilot test
- Process cost analysis at all levels of the supply chain
- Demand planning



What benefits are expected?

business case: average savings by 20%



what is meant by that concretely?

Business case: optimizing loading capacity



- change from stacked consignments with American boxes to EUL 1/2 consignments with the GS1 SMART-Box
- Reducing pallet space (transport)
- Reducing cost for pallet cycle (estimated av. 3,81€)*
- Reducing administration expenses



*based on a analysis of Fraunhofer IML

Business case: optimizing of processes

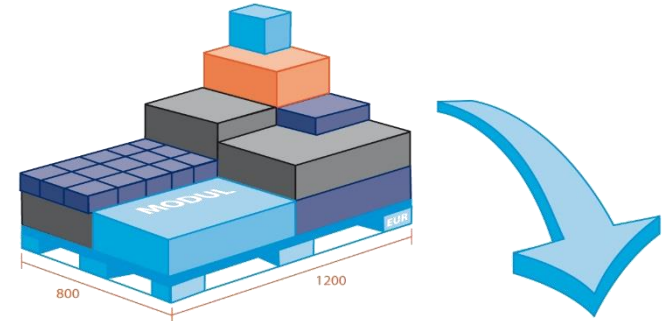


- change from opening the cardboard box, repacking the goods and dispose of packaging material to an optimized flow
- optimized picking process both at the manufacturer (mixed pallets) and the retailer
- saving in material costs



additional potential: increasing the capacity utilization rate

- The GS1 SMART-Box will be available in six different sizes.
 - 600 x 400 mm
 - 300 x 400 mm } **3 different heights**



- the criteria for modularity can be applied to primary packaging as well in the long term

Grundmaß	Multimodule	Untermaße
600 x 400 mm	1.200 x 800 mm 800 x 600 mm	400 x 300 mm 300 x 200 mm 400 x 200 mm 400 x 150 mm 300 x 100 mm

additional potential: savings on foils and labels



- using serialized GRAI for identification instead of a separate article label (GTIN) → SSCC only on pallet
- the serialized GRAI is fixed to the box across all processes
- the removal of the label is not necessary after each circulation and thus reduces the pooling costs



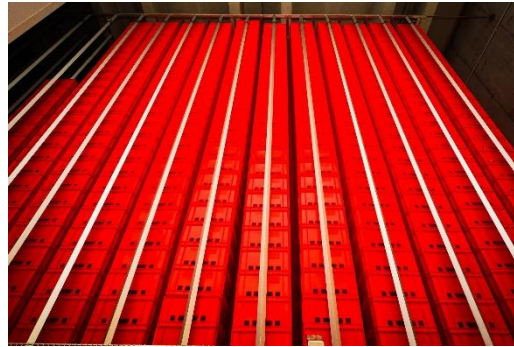
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85

additional potential: further steps of optimizing processes



optimization of
the order delivery
process → mixed
pallets



storage in SMART-
Boxes instead of on
pallets



using the SMART-
Box for delivery
to the point of
sale

Ensure implementation



- Defining the set of GS1 SMART-Boxes
- Designing returnable cycles
- Creating demand planning
- Achieving commitment between stakeholders

GS1 SMART-Box



→ The label is supplemented by RFID right from the start

- 6 different sizes (based on 600x400 and 300x400 mm)
- Process requirements
 - fit to the conveyor system
 - Shutter for easier picking process
 - Nap field for easier removal of labels
- GS1 identification standards
 - Serialized GRAI for asset type and version
 - Left-/right-identification (shutter)
- Compliance with VdS* fire protection requirements

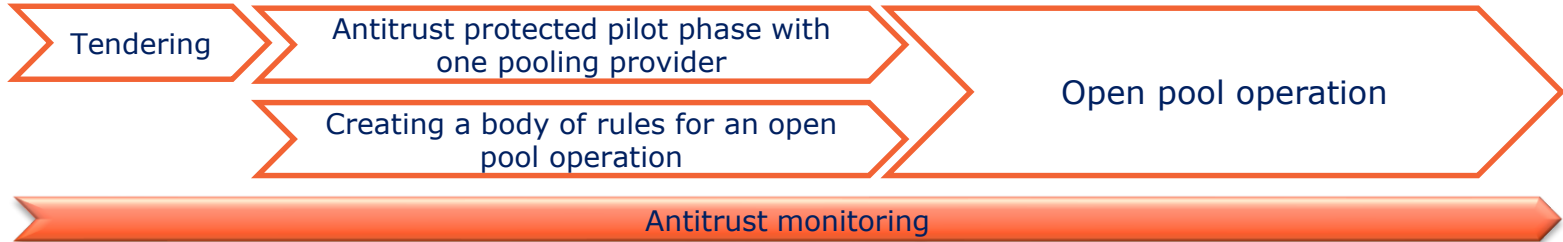
* VdS is an independent institution which has been ensuring safety and trust in the fields of fire protection and security

Designing returnable cycles

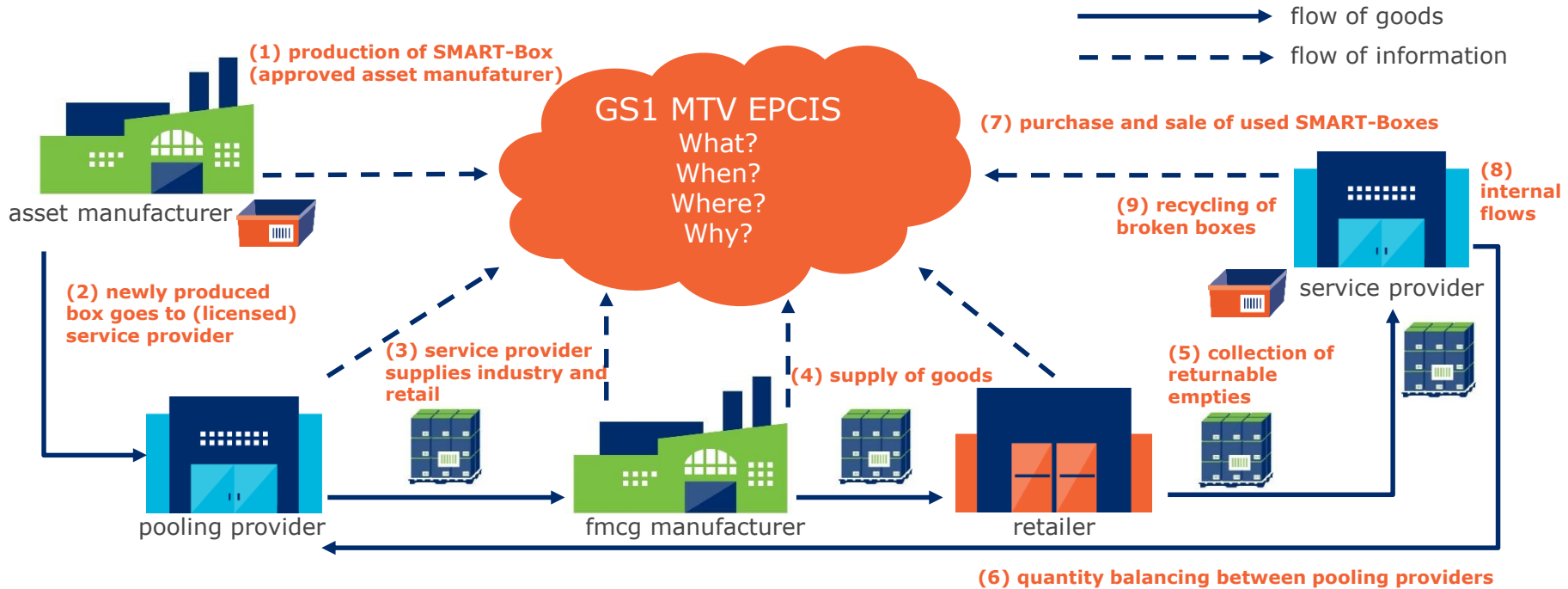
Aspiration:

- ✓ Low complexity for implementation
- ✓ High standards of quality assurance
- ✓ No sorting effort in the supply chain
- ✓ Maximum service at low costs
- ✓ High availability of SMART-Boxes even at seasonal peaks
- ✓ Interoperability by using a standard
- ✓ High competition between pooling providers

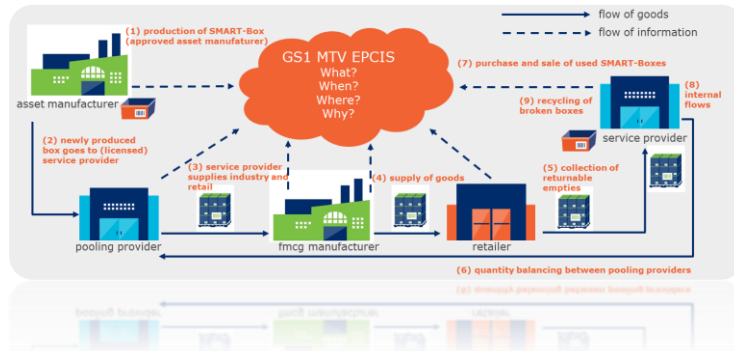
Approach:



Development of an innovative circular economy



Basis for a completely transparent system



- combines the advantages of closed and open pool systems
- the life cycle of each load carrier can be traced from its production "birth" to its utilization "death"
- plagiarism will be identified soon and grey markets will be dissolved as early as the development phase

Creating demand planning



Number of required SMART-Boxes

Demand forecast

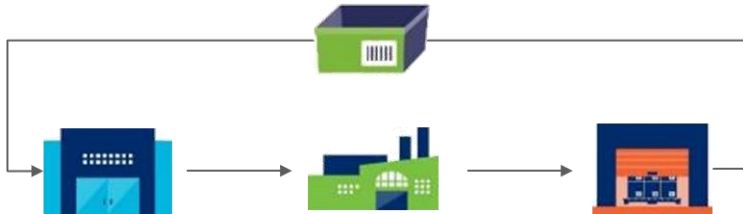
Analysing handicaps

Demand planning

→ Defining suitable products delivered in the SMART-Box

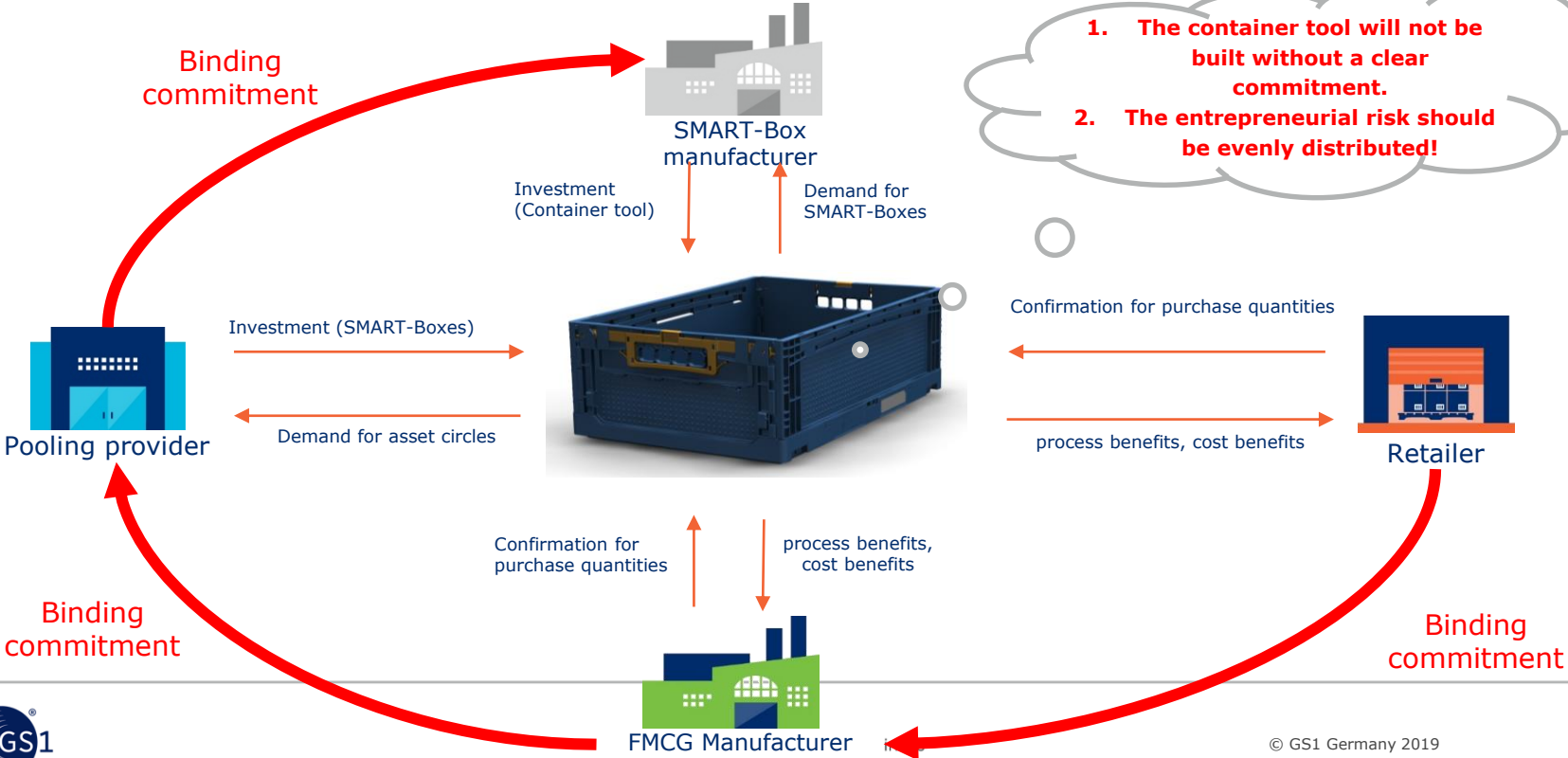
→ Determination of exclusion criteria (e.g. hazardous goods)

→ Realistic planning for the start scenario

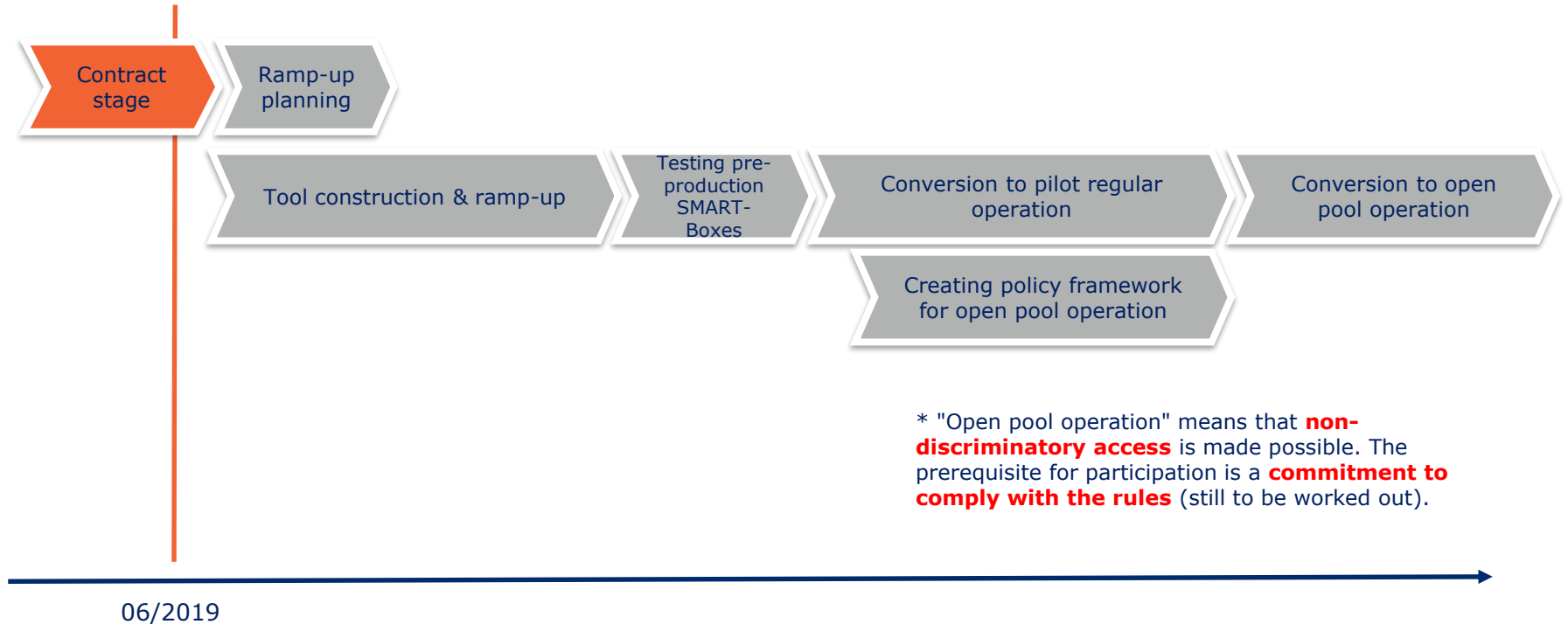


→ The frequency of the asset circles also determines the number of SMART-Boxes required.

Achieving commitment between stakeholders

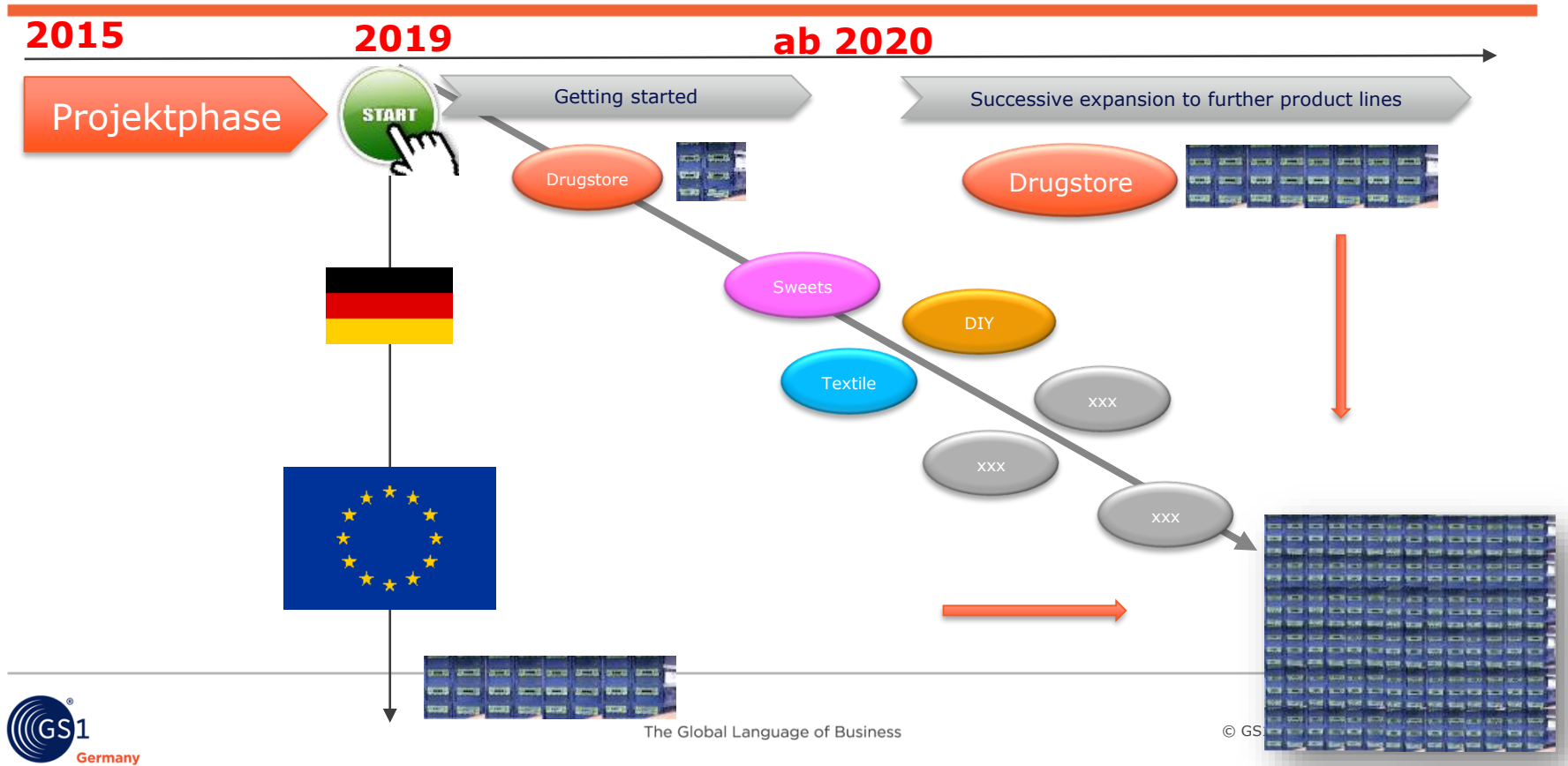


Planning based on contract conclusion



* "Open pool operation" means that **non-discriminatory access** is made possible. The prerequisite for participation is a **commitment to comply with the rules** (still to be worked out).

We expect big things



We believe in it!

Beiersdorf



L'ORÉAL

MIGROS



P&G

real-

ROSSMANN
DROGERIE PARFUMERIE



THANK YOU

¡GRACIAS

GRAZIE

고습니다

OBRIGADO!

Teşekkürler

MERCI

DANKE



Germany



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