EU-FALSIFIED MEDICINES DIRECTIVE

EMVO AND NMVO

STAKEHOLDER AWARENESS MEETING
23RD AUGUST 2017, MALTA

By Christoph Krähenbühl
EMVO Commercial and Partnership Management Team

christoph.krahenbuehl@emvo-medicines.eu

AGENDA

1. Introduction: EU-FMD Background
   - EU-FMD Basics: Background, Legislation, Safety Features
   - Obligations on Stakeholders: Manufacturers, Local Manufactures (Repackaging), Parallel Distributors, Wholesalers, Pharmacists, National Competent Authorities
   - EU-FMD Readiness and On-boarding

2. EMVO, EMVS and NMVOs
   - System and Process Overview
   - Implementation Project Roadmap
   - Status update: Progress of the Implementation Projects and Learning from other markets

3. Hot Topics
   - Small Market Challenges – Malta
   - Any questions?

Christoph Krähenbühl

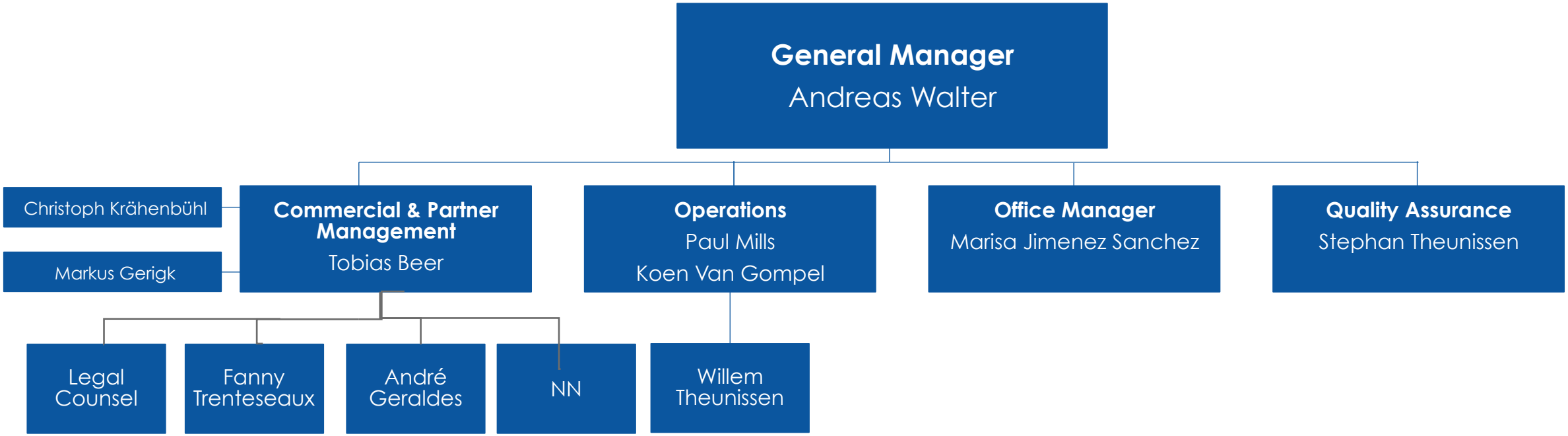
- Swiss citizen, living and working in UK (near Manchester) since 1994
- Senior Director at Excellis Europe, specialising in consulting and training in Pharma Serialisation
- Leadership in Serialisation Projects since 2006, as **Product Security Manager at AstraZeneca (HQ UK)**, one of the early adopters and global leaders in pharma serialisation.
- From 2010 Expert on **EFPIA's Coding and Serialisation team**
- Member of the European Medicines Verification Organisation **EMVO Management Team**, supporting the EMVS establishment at national level.

EMVO MISSION

"The European Medicines Verification Organisation (EMVO) has taken responsibility for advancing the creation of the European Medicines Verification System (EMVS), for the purpose of medicine verification and the enhancement of patient safety, in accordance with the Falsified Medicines Directive (FMD) and the Delegated Regulation (DR), detailing the characteristics of the safety features."

ORGANISATIONAL CHART

EMVO Board of Directors
President: Hugh Pullen (EFPIA)
Vice-President: Sonia Ruiz Morán (PGEU)
Treasurer: Richard Freudenberg (EAEPC)
Monika Derecque-Pois (GIRP)
Adrian van den Hoven (Medicines for Europe)



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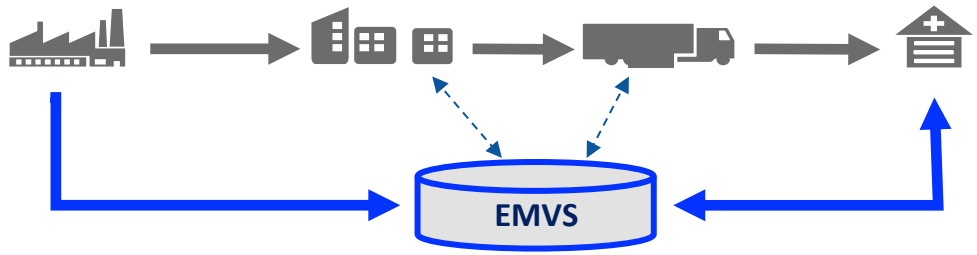
FMD: LEGAL OBLIGATIONS

Serialization by MAH
Verification and check-out at point of dispense
Risk based verification by Wholesalers

Safety features:
Unique Identifier + Anti-Tampering Device
on all products in scope (Rx; not OTC)

System set up and Governance by MAH together with other stakeholders
Oversight by competent authorities



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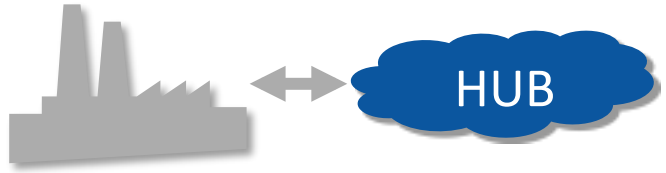
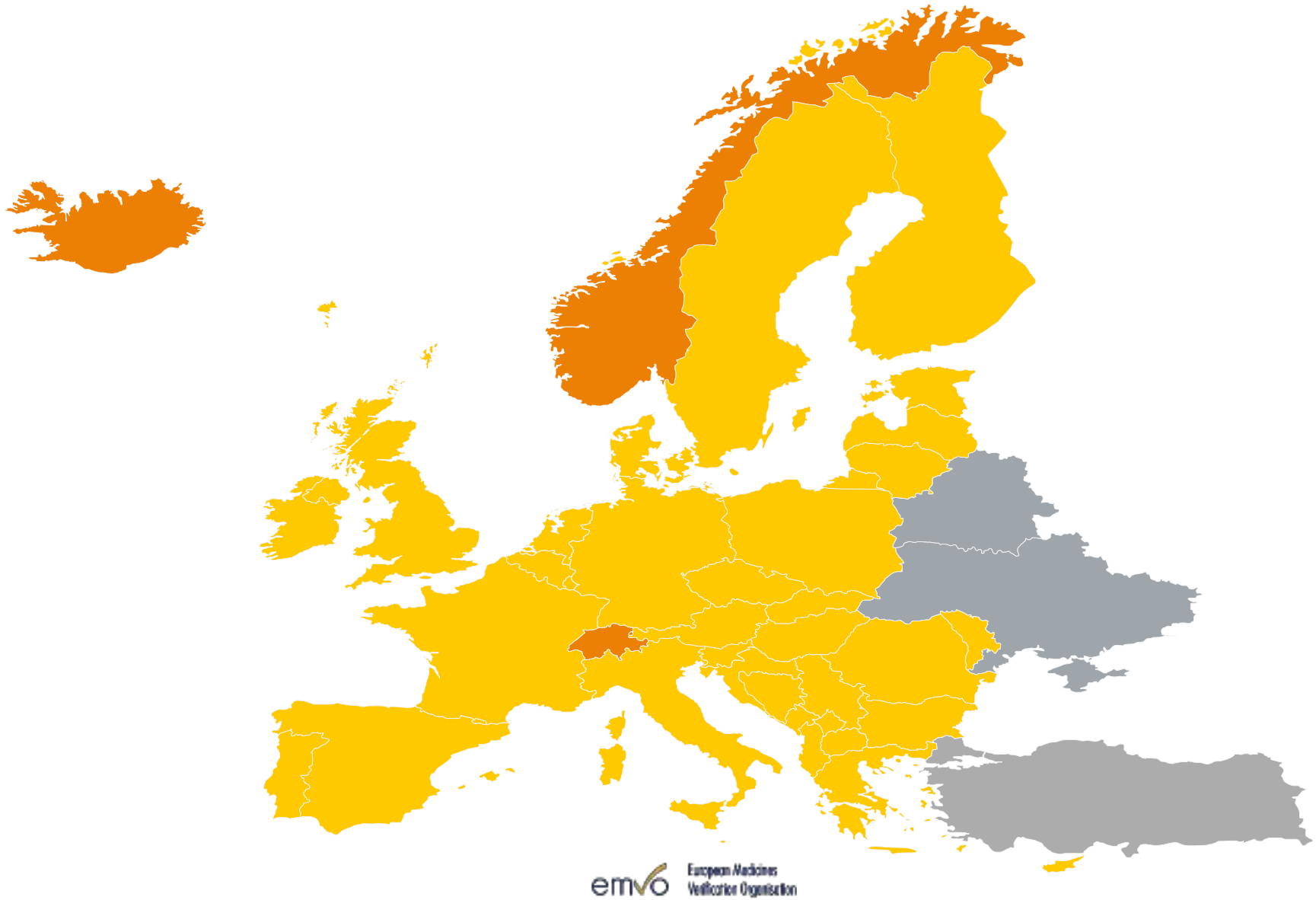
S/N:	12345AZRQF1234567890
Batch:	A1C2E3G4I5
Expiry:	170209



COUNTRIES IN SCOPE OF THE THE FMD



SERIALISATION

- **Data-Matrix code, developed to ISO-standards**
- **Key data elements:**
  - Product code (GTIN/NTIN)
  - Randomised unique serial number

  Global uniqueness guaranteed
  - Expiry date
  - Batch number
  - National health number (where necessary)

Product #:	12345678901234
Batch:	A1C2E3G4I5
Expiry:	190500
S/N:	12345AZRQF1234567890

2D DM as data carrier of choice:
Compact, Robust, Cost-effective

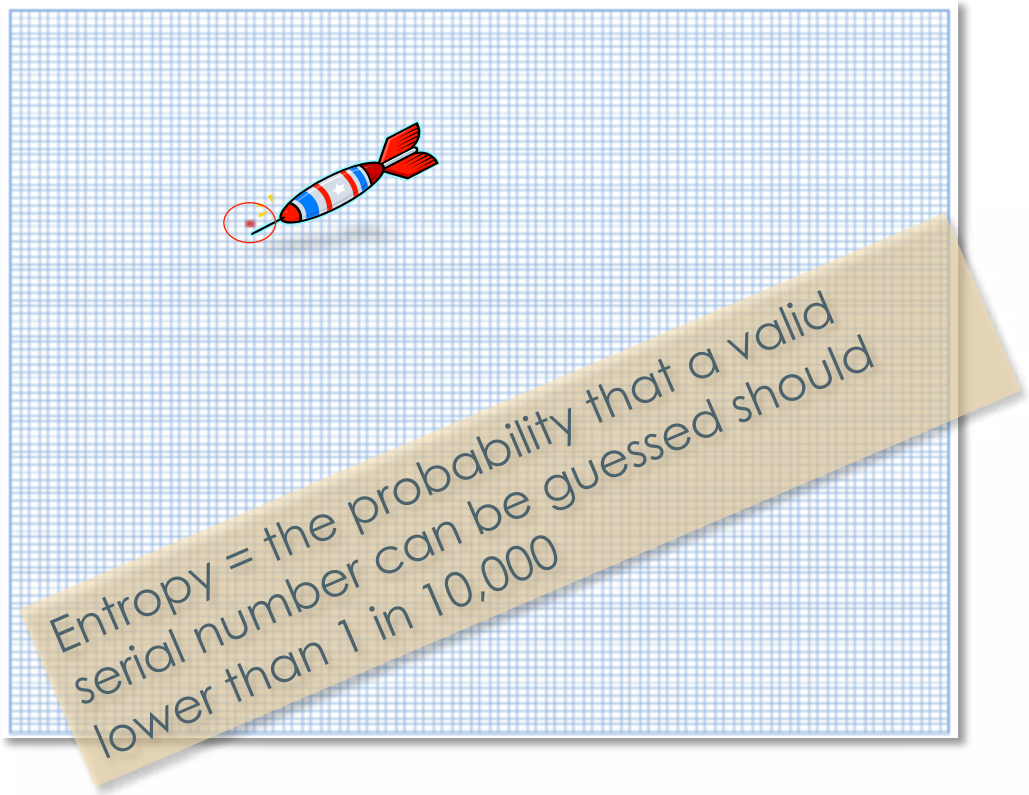
SERIAL NUMBER (EFPIA PACK CODING GUIDELINE)

1) Unique, Random and High Entropy

2) Maximum length 20 chars (alpha-numeric), string should…

- only contain either lower case or upper case letters, not a mixture.
- exclude the following letters: i, j, l, o, q and u. (I J L O Q U)
- = 30 alphanumeric characters available = 30^{20} possible serial numbers per Product Code

= 348,678,440,100,000,000,000,000,000,000



ANTI-TAMPERING DEVICE (ATD) - TAMPER-EVIDENCE

Thanks to Dieter Mößner, Carl Edelmann GmbH

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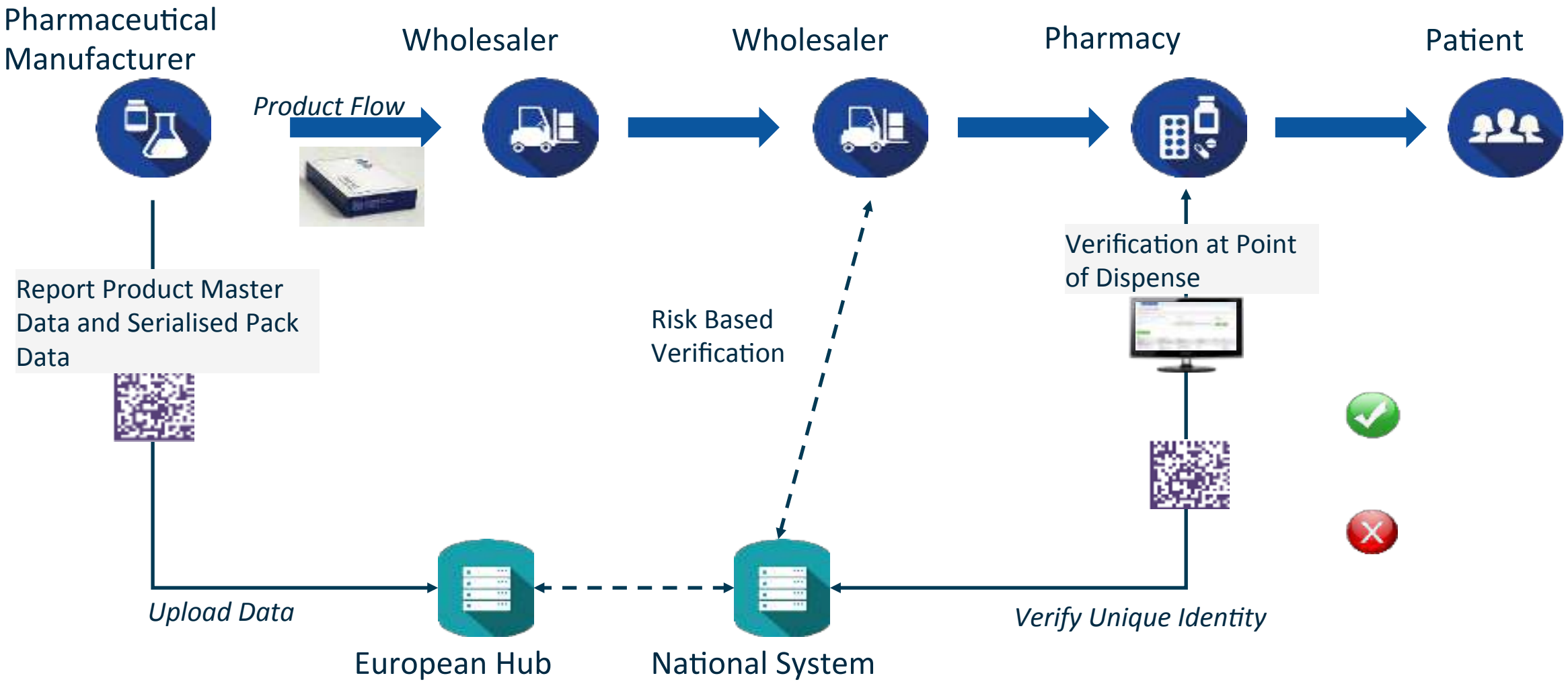
EU-FMD TIMELINE

EUROPEAN MEDICINES VERIFICATION SYSTEM



STAKEHOLDER IMPACT

Manufacturers

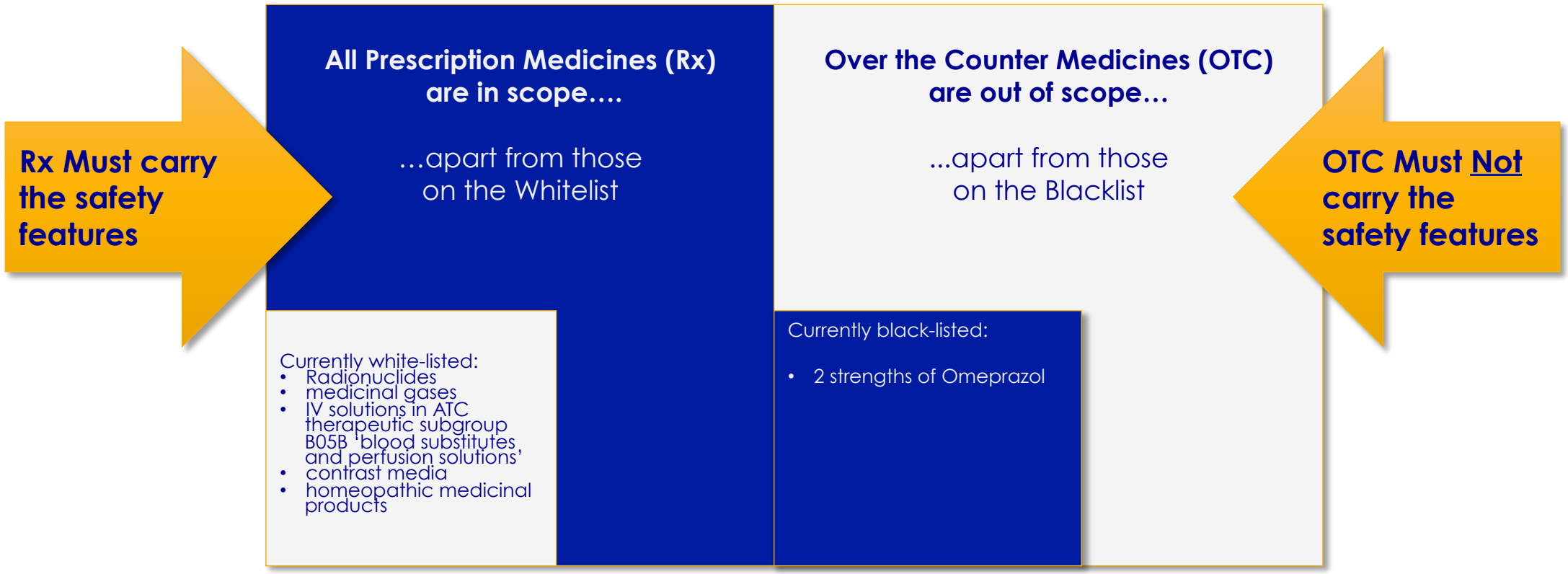
Requirement (routine operation)		Pharma - Brand Owner and Generics	Pharma - CMO	Parallel Distributors	Wholesaler/ Distributor	Pharmacist	National Competent Authorities
1)	**Pay for EMVS ("Bearing the costs for the system")**	Yes	*no - Marketing Authorisation Holders pay*	Yes			
2)	**Apply Unique Identifier**	Yes	Yes (requested by customer)	Yes			
3)	**Apply Anti-Tampering Device**	Yes	Yes (requested by customer)	Yes			
4)	**Connect to European Hub: Upload UIs**	Yes	*no - will be done by customer*	Yes			
5)	**Connect to EMVS to Decommission UIs**			For "consumed" packs (Hub)	For packs exported from Europe (National System)		
6)	**Connect to EMVS: Verify UIs**			Verify (EU-Hub)	higher risk shipments (NMVS)	voluntary check is possible (NMVS)	
7)	**Connect to NMVS: Decommission UIs**				"Early dispense" for institutions	Yes: Point-of-Dispense	
8)	**Process Alerts**	Where relevant		Where relevant	Where relevant	Where relevant	
9)	**Receive Reports to allow Overview/Supervision**						Yes

EUROPE-WIDE SCOPE OF EU-FMD "SAFETY FEATURES"

Safety Features consist of 2 elements:

Unique Identifier

Tamper Evidence



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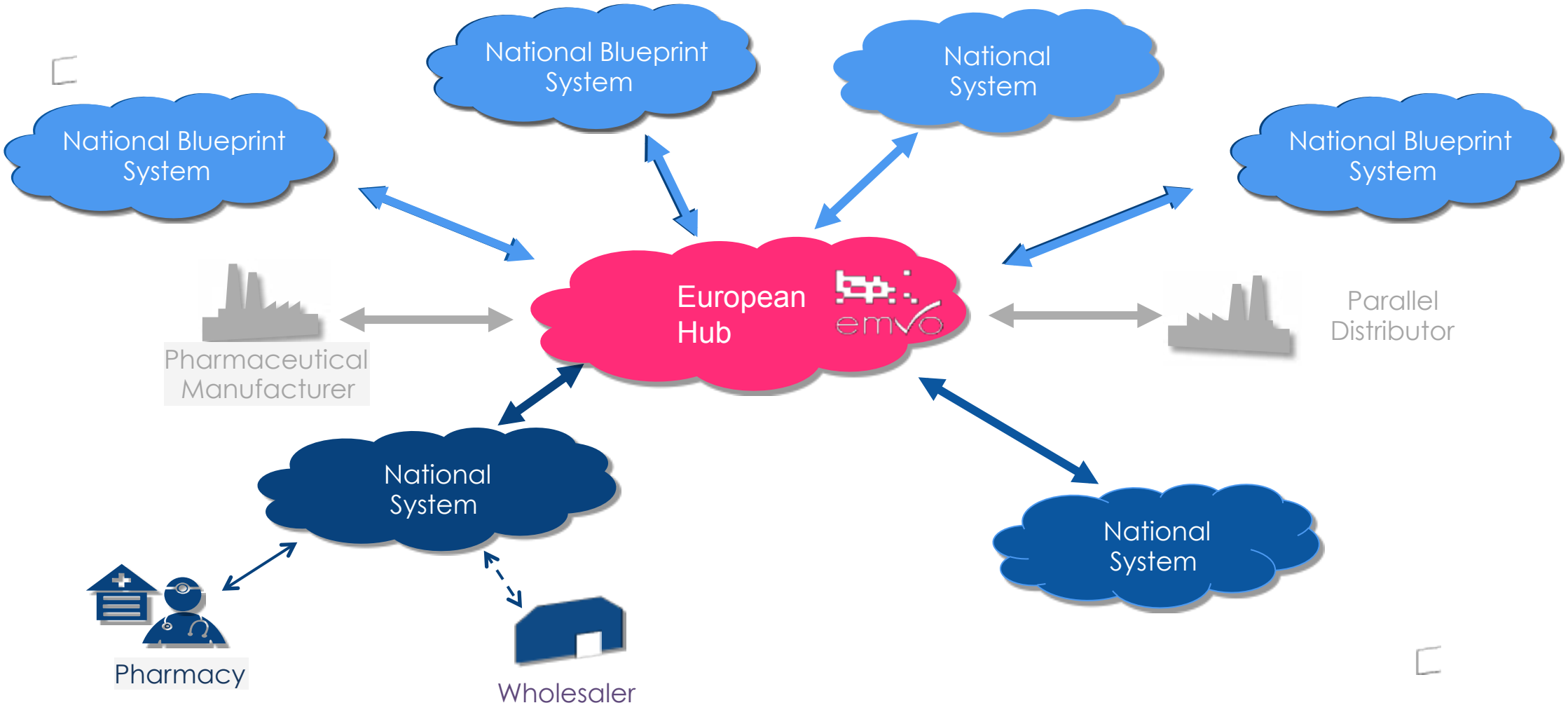
SCOPE EXTENSION BY MEMBER STATES POSSIBLE

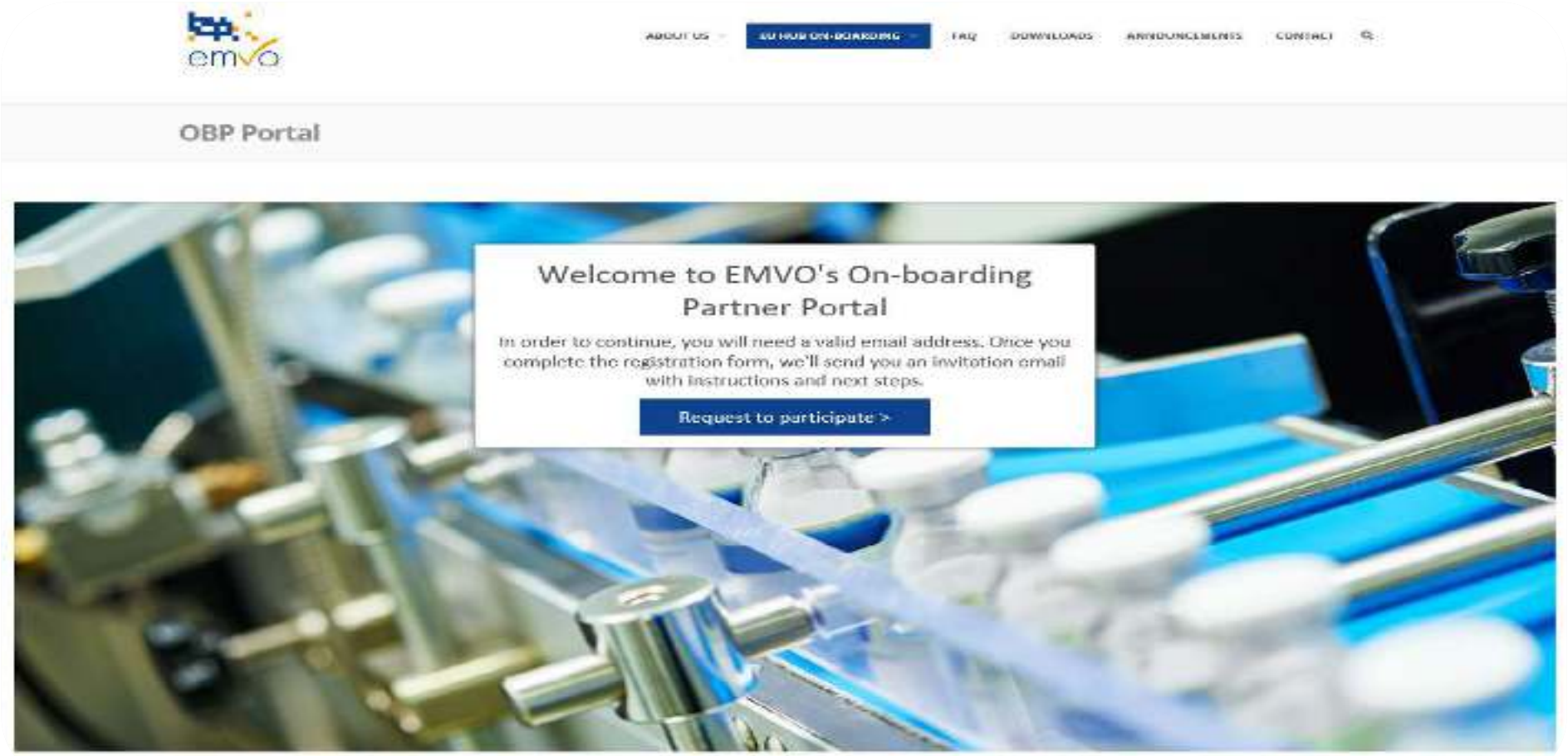
Member States may **extend** (but not reduce) the scope of application of the unique identifier **and/or** of the anti-tampering device for the purpose of (Art. 54):

Safety Feature	Reimbursement or Pharmacovigilance	Patient Safety	Applicable to…
Unique Identifier	**Yes**	~~No~~	any medicinal product subject to prescription or reimbursement
Tamper-evidence	~~No~~	**Yes**	any medicinal product

REPOSITORIES SYSTEMS

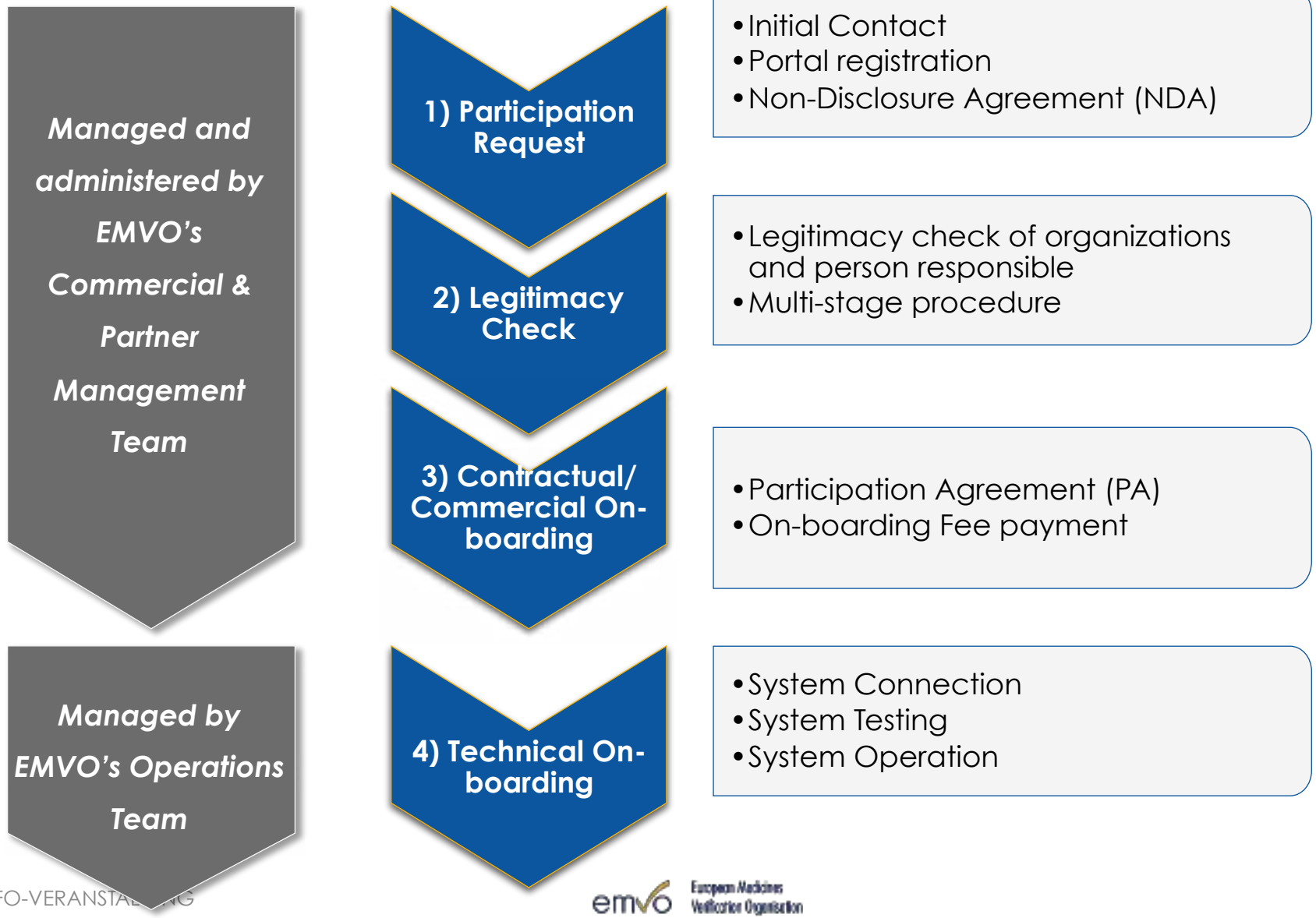


OBP PORTAL

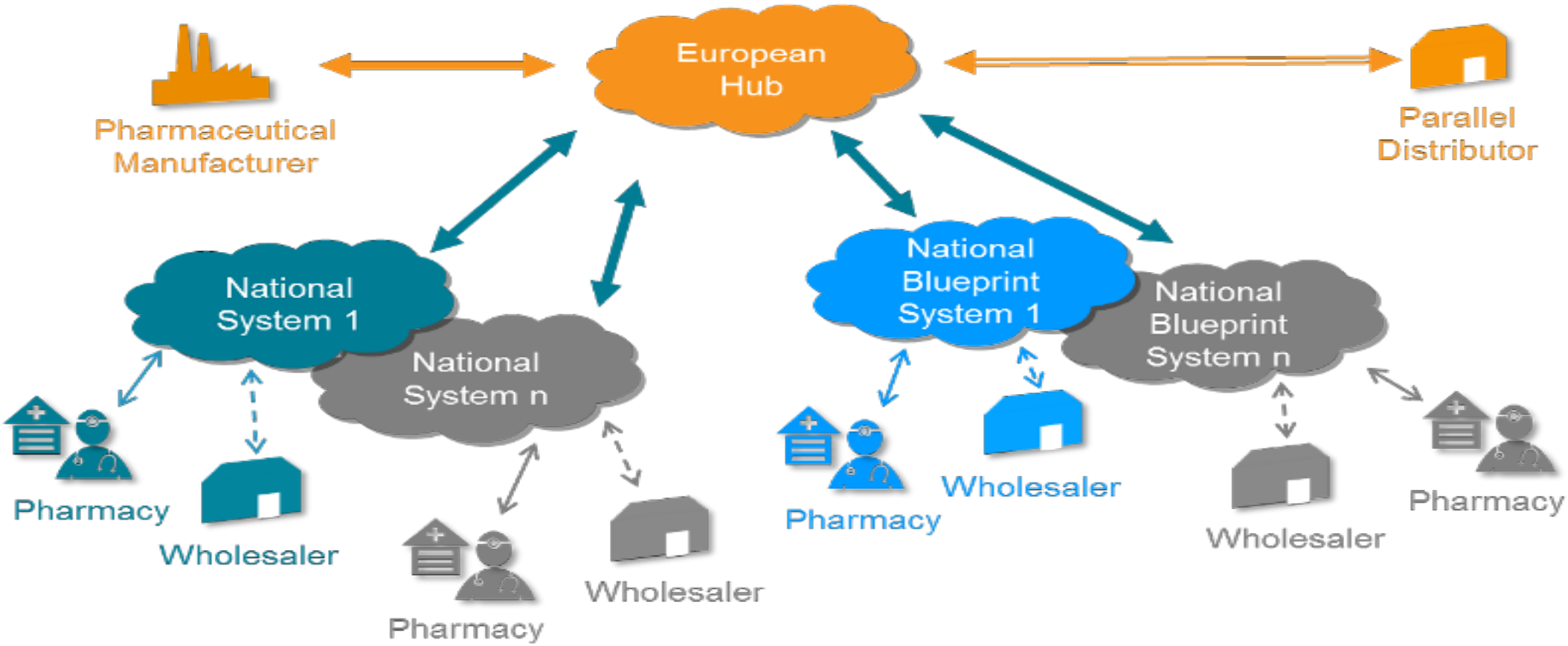


https://www.emvo-medicines.eu/eu-hub-on-boarding/obp-portal/

ON-BOARDING PROCESS

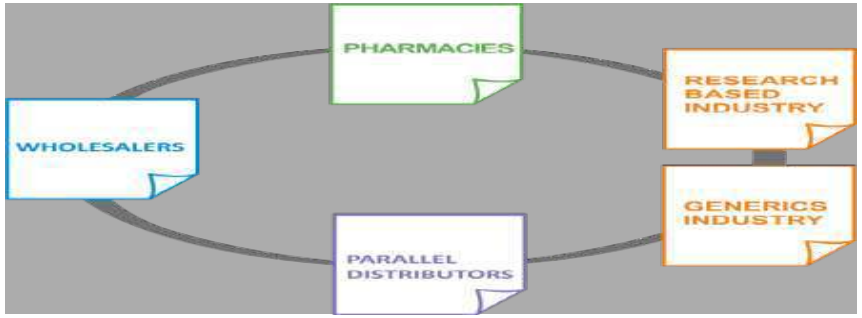


SYSTEM LANDSCAPE



IT IS THE OBLIGATION OF THE PHARMA INDUSTRY TO ESTABLISH THE REPOSITORIES SYSTEM

- The repositories system shall be set up and managed by a non-profit legal entity (NMVO) established in the Union by manufacturers and marketing authorisation holders of medicines in scope = those who must pay for the system
- Wholesalers, persons entitled to supply medicinal products to the public and relevant national authorities shall be consulted and are entitled to participate in the legal entity on a voluntary basis free of cost (stated in the DR)
  - The statutes for the NMVO can state different membership levels and voting rights
  - The EMVO principle is "pay to vote", i.e. stakeholders wanting to be Full Members should pay part of the NMVO admin cost



ESTABLISHING AN NMVO AND AN NMVS

Governance Workstream:

1) Alignment between stakeholders
2) Memorandum of Understanding
3) NMVO Statutes agreed
4) NMOV established

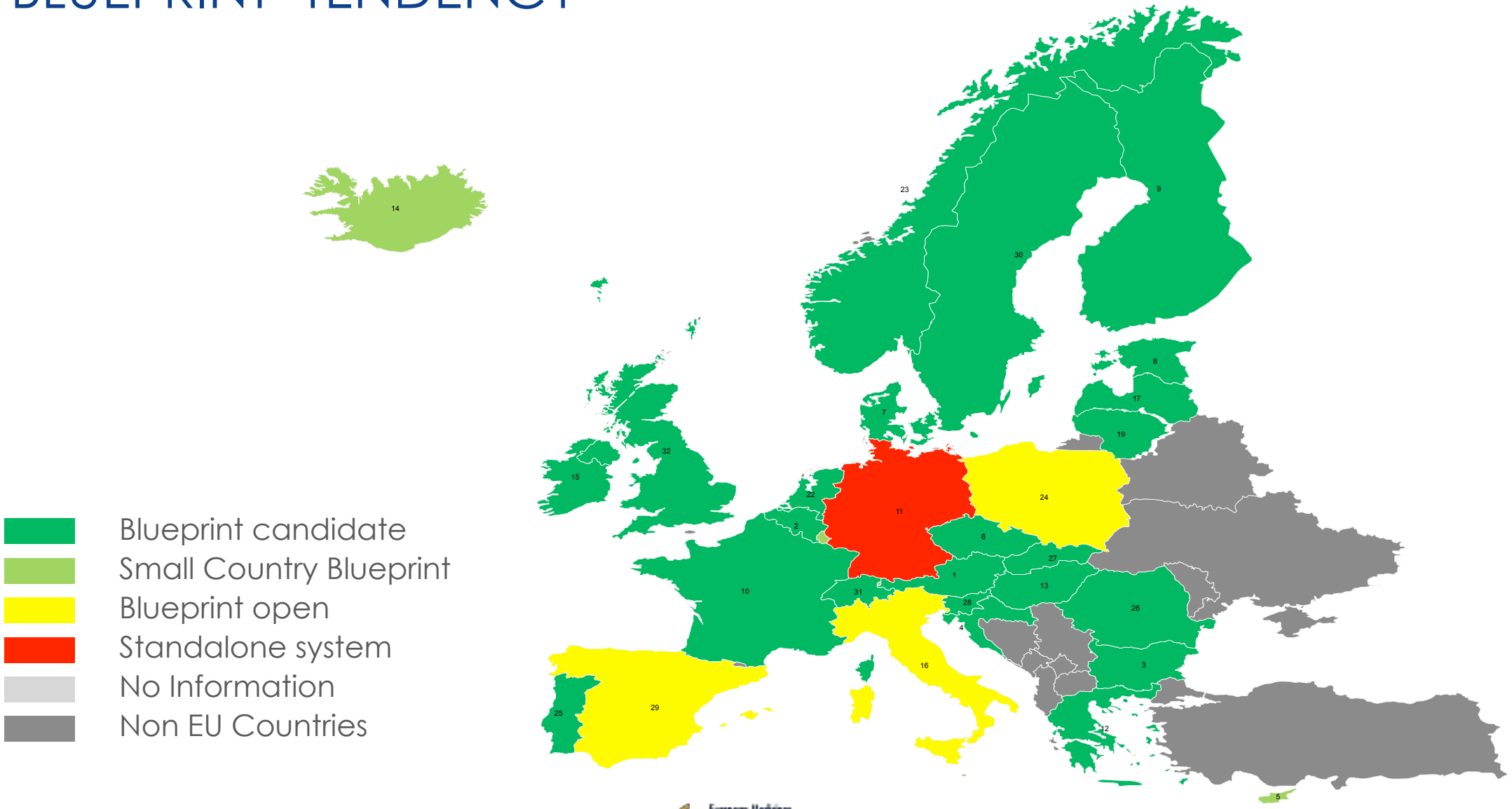
Technical Workstream:

1) Project Manager appointed
2) Contact to IT service providers established
3) IT service provider selected
4) Contract with IT service provider signed

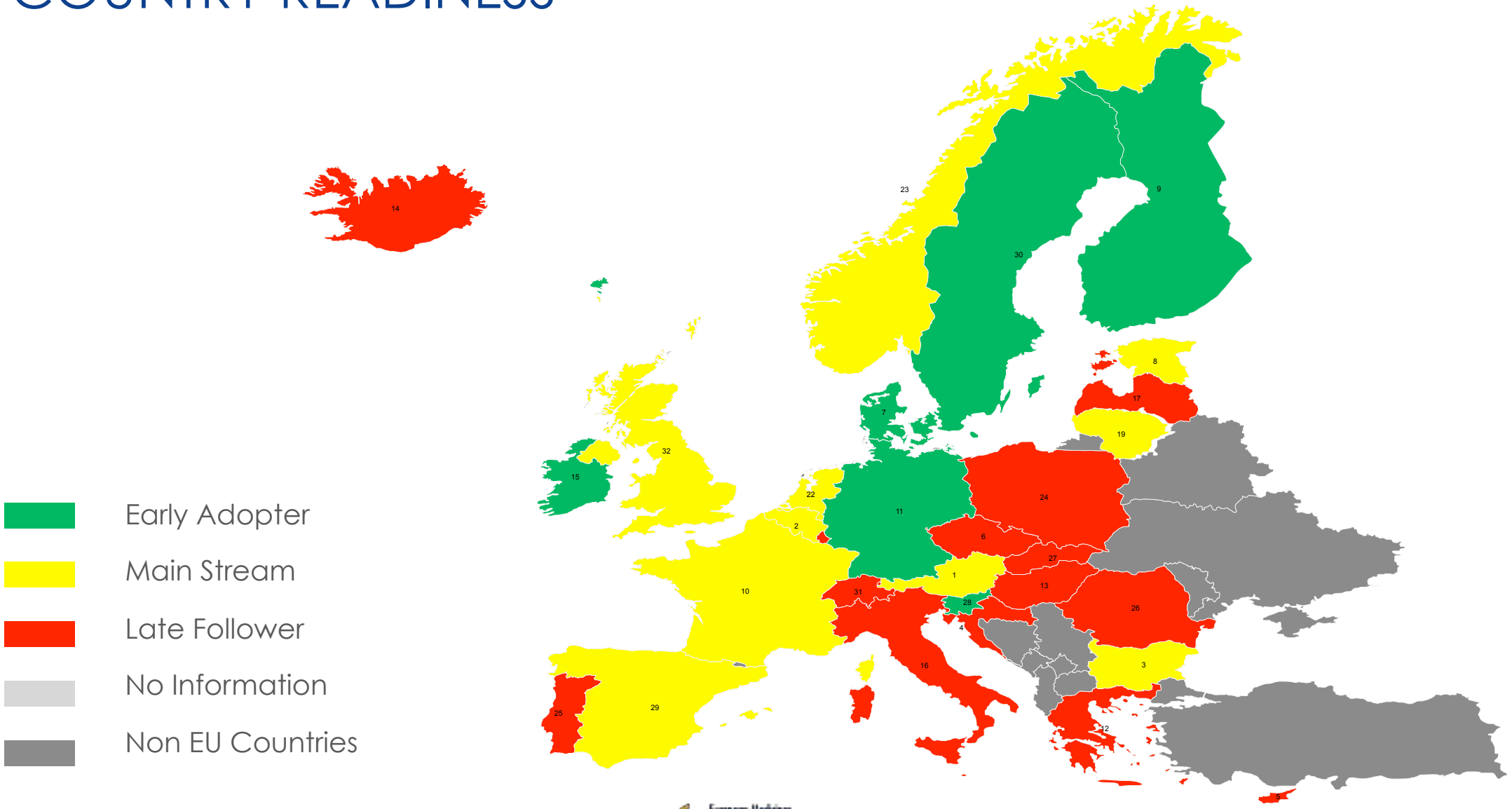
NMVO and NMVS operational – in "Business As Usual" (BAU)

- ✓ Organisation established
- ✓ IT service up and running
- ✓ SOPs defined
- ✓ Users on-boarded
- ✓ Revenue being collected

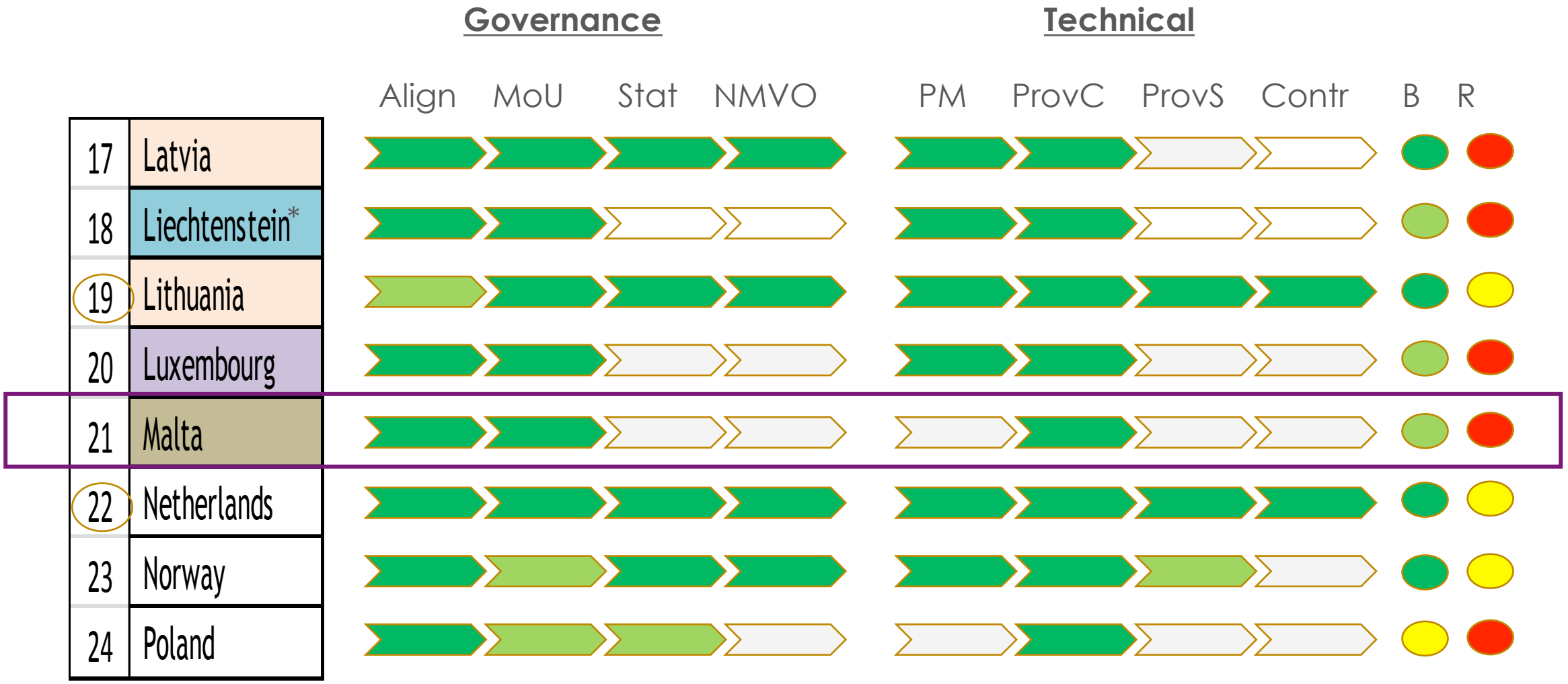
EXECUTIVE SUMMARY
BLUEPRINT TENDENCY



EXECUTIVE SUMMARY
COUNTRY READINESS



STATUS PER COUNTRY 17-24



◯ = Change in last month

= Incomplete Stakeholder Participation

*part of Switzerland System

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SMALL MARKET CHALLENGES

The small markets receive **few if any market-specific packs**.

Patient supply is therefore achieved by a combination of:

- Multi-market/shared packs ("official or un-declared")
- Local repackaging of packs for other markets
- Imports under light-touch marketing authorisation (Article 126A)

Concerns are impact on EMVS:

- Disproportionate size of national database
- High rate of multi-market transactions: transaction load on hub
- Out-of-market queries: performance impact at dispense and transaction load on hub

TECHNICAL AND ORGANISATIONAL ISSUES

If market is supplied with original Mkt-specific Packs or Multi-Mkt Packs	If market is supplied with packs originally for other Mkts that are locally re-worked or imported under special regs.
✓ The Pack data is **available in the local system** ✓ Verification in Pharmacy to standard SLA performance ○ For MMPs post-verification steps put some additional transaction load on EMVS; this is acceptable if limited	✧ The Pack data is not available in the local system and will trigger **out-of-market query** ✧ Verification in Pharmacy will be of **poorer performance** ○ Additional transaction load on EMVS for OOM query is increased considerably and may have impact beyond these markets
✓ The Pack in the market is made by the MFR who is represented directly locally ✓ Participation in NMVO and cost allocation straightforward	✧ the entities selling into the market will not be directly linked to the MFR (or not even be part of the MFR constituency) ✧ Participation in NMVO and cost allocation is problematic ("Who to send the invoice to?")

"NORMAL" VS. "SMALL" MARKETS CHARACTERISTICS

	Example Sweden	Example Malta
Mkt-specific Prods	Most packs are either specific Swedish market packs...	A few (mostly PT Imports that the PD is reworking under PT licence)
Multi-mkt packs in MM livery that includes target market	... or Nordic multi-market packs, (typically S/FI, S/NO, S/DK/NO, S/UK/IE)	Common (often UK/IE/MT)
Other packs for sale that are NOT manufactured for target market	Exceptional (see Named Patient);	• UK packs that are then locally re-worked to add details of the local MAH (e.g. GSK UK packs marketed in Malta by GSK) • Almost 50% of packs are imported under Art 126(a) 'light touch' license by other parties (i.e. not the MAH linked to the manufacturer); these are typically packs for UK, IE, Italy, France that are re-worked in market (addition of sticker and PIL) to comply with mkt requirements
Parallel Trade: Exp / Imp?	Yes: PI present in the market, substantial market share for some products	Yes: PI present who import typically from Romania, Poland etc.
Named patient / Compassionate / Patient access imports	Very rare; Exceptional circumstances	More common also in case of shortages (but is this the same as imported under 126A licence?)
MFR / MAH present in market?	MFR: yes MAH: yes, physical presence or Sales Office ***> Most products in market are marketed by MAH that is linked directly to MFR***	MFR: None MAH: very few with local Sales Office, usually represented by agents = wholesalers / distributors ***> Most products in market are NOT marketed by a entity linked to the MFR***
Government participation in pharmaceutical supply	No direct role in medication supply	Gvt is a major player: • Purchase directly (tender business) for supply to public sector / hospitals • Gvt holds MA licenses for some products
Other issues	Shared Nordic VNr - National reimbursement codes still used embedded in NTIN but link to NTIN being phased out	• Discrepancy between markets re. OTC/Rx

PACK VERIFICATION SCENARIOS FOR (EXAMPLE MALTA)

Scenario		Manufacturer/Importer	EU- Hub/NMVS	Pharmacist/Wholesaler
1	**Malta market-specific Packs**: Malta system holds the Pack and the Event data	MFR uploads master data for these packs as "Market = Malta"	Hub routes the Pack Data (UIs) for these packs to Malta NMVS	Pack Dispense against Malta NMVS: Standard SLA performance*
2	**Multimarket Pack UK/IE/MT**: All three national systems (UK and Malta) hold the Pack and the Event data	MFR uploads master data for these packs marked for 3 Markets: UK, Ireland and Malta	Hub routes the Pack Data (UIs) for these packs to the 3 NMVS in UK, Ireland and Malta	1) Pack Dispense against Malta NMVS: Standard SLA performance* (as in scenario 1) 2) After Dispense in Malta NMVS, this transaction is reciprocated in the UK and IE NMVS (via Hub) to mark pack as dispensed in the other multi-markets
3	**UK Pack** (adapted locally for Malta by adding local license number): No Pack data for this pack in Malta system; post dispense Malta system will hold the Event data	MFR uploads master data for these packs as "Market = UK"	Hub routes the Pack Data (UIs) for these packs to the UK NMVS	inter-market query: 1) Pack is not recognised in Malta NMVS 2) This triggers inter-market query** = Pack is dispensed in UK-NMVS via EU-Hub 3) Dispense event is also recorded in Malta NMVS

** Standard SLA performance: 99.0% transactions respond < 300ms*
*** Out of market query performance: estimate maximum time 5 times standard SLA performance (national system > Hub > national system > Hub > national system)*
excluding Internet performance