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Key requirements of the EU Falsified Medicines Directive

Christoph Krähenbühl

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- 25+ year experience in chemical and pharmaceutical industry
- Product security, master data management, global supply chain systems, pack coding / GTIN
- Project lead for AstraZeneca's global serialisation system
- Expert on EFPIA's coding & serialisation / ESM – EMVS project team
- Member of the recently set up ISPE GAMP Serialization and T&T SIG
- 3C Integrity Ltd., consulting company specialising in serialisation, traceability and product security
- 2-Day Serialisation Readiness Workshops

1. Serialisation – Background and Context

2. EU-FMD – Key Requirements

3. Serialisation Readiness

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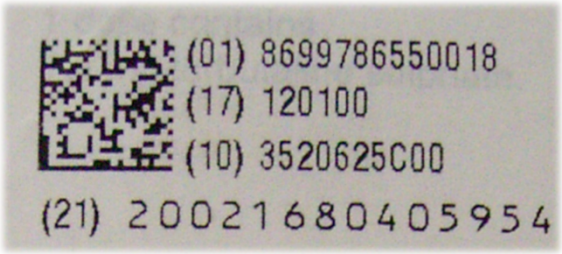
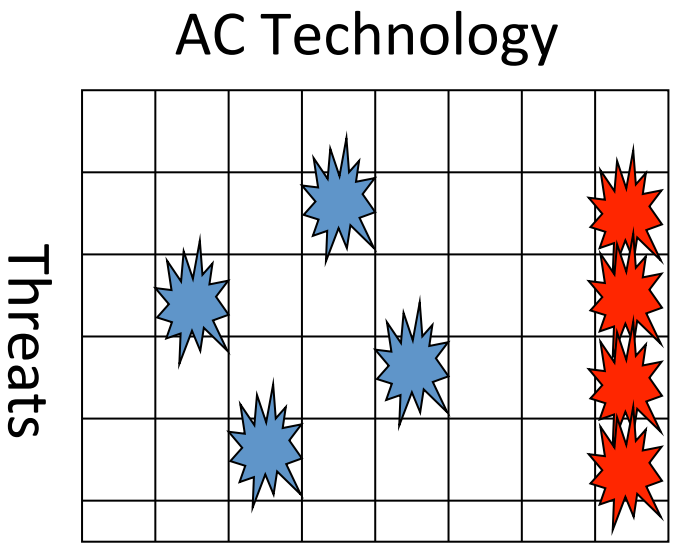
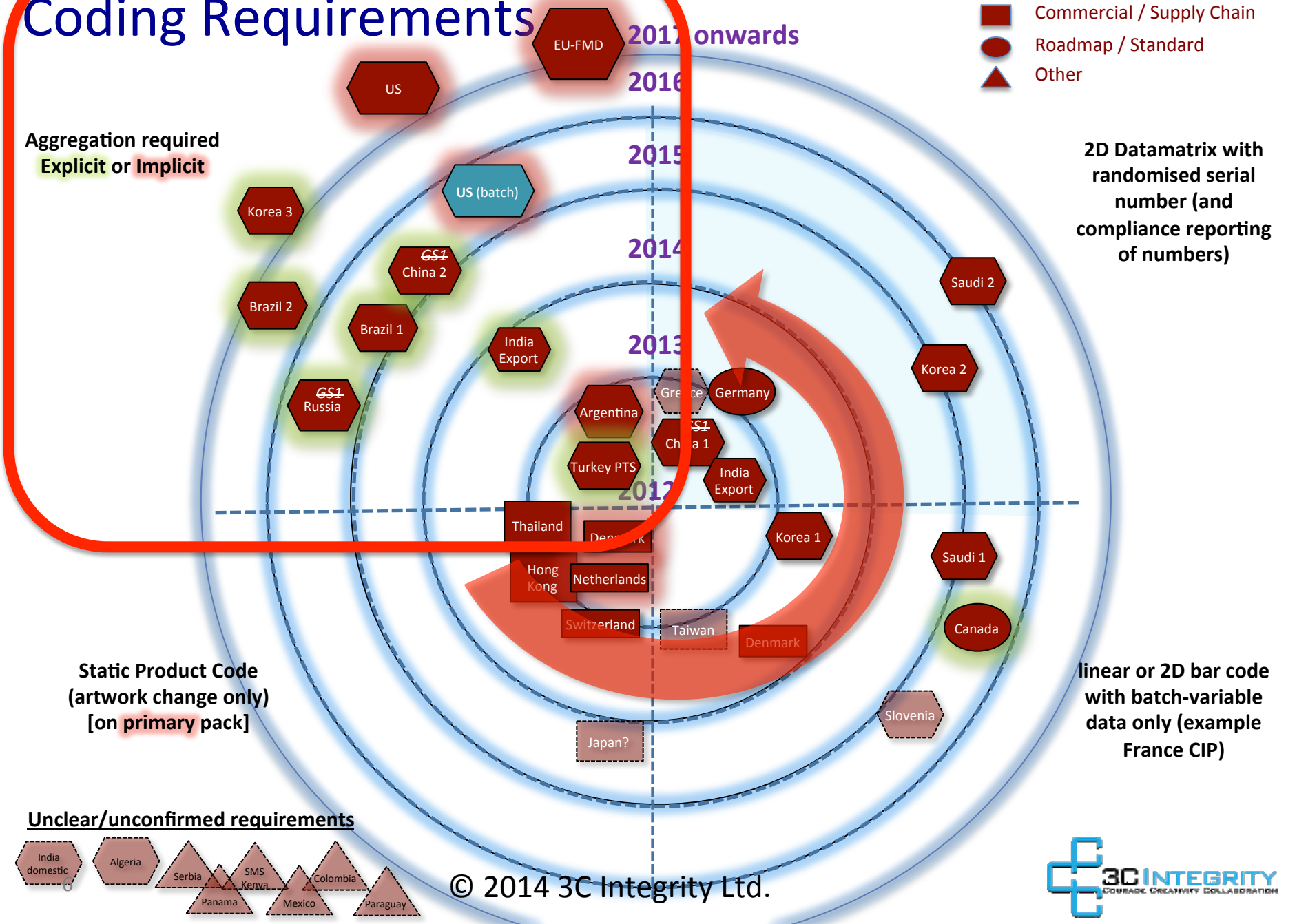
Serialisation
Background and Context

Strategies to fight counterfeiting and other threats

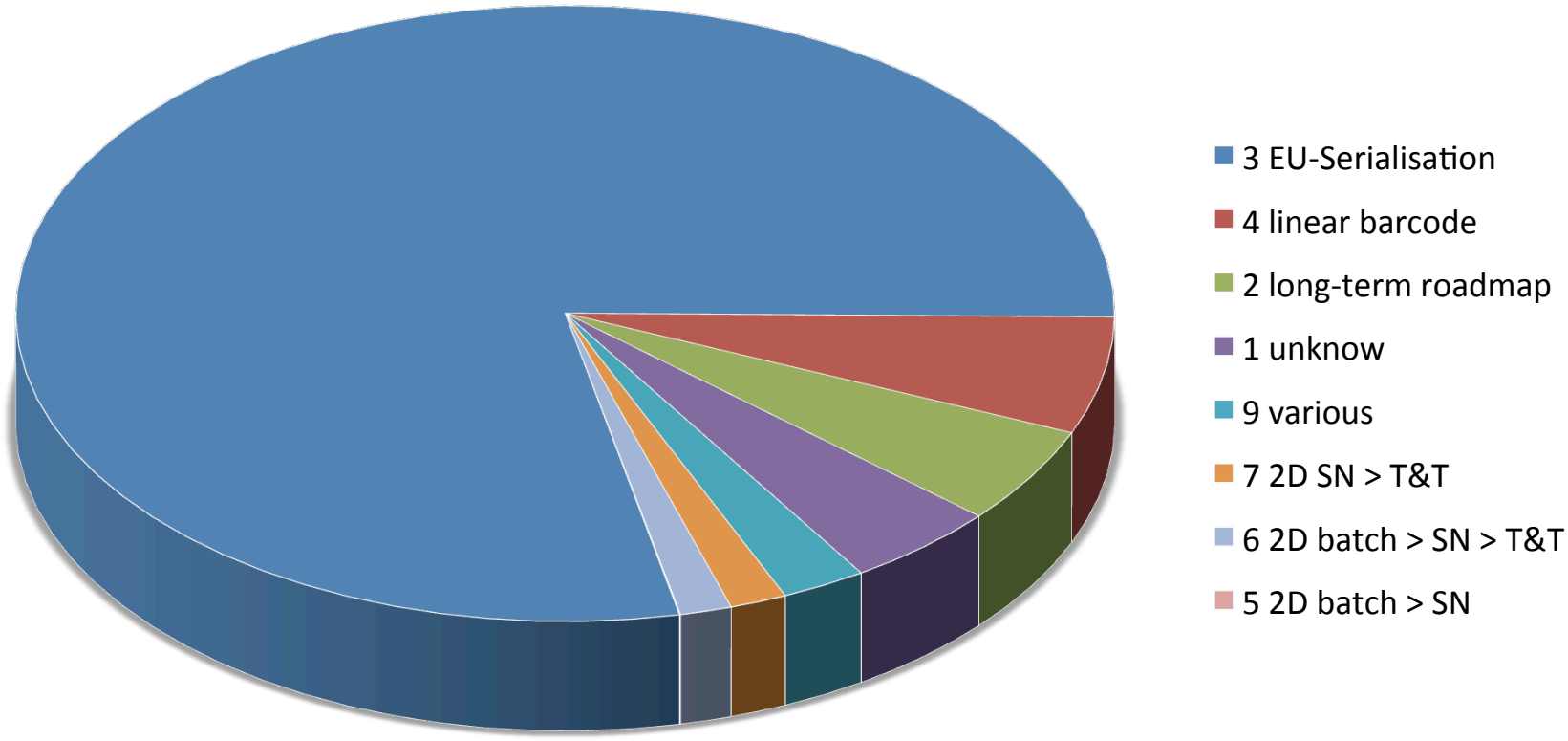




Coding Requirements



Coding Requirements affecting Rx "3CPharm" Products



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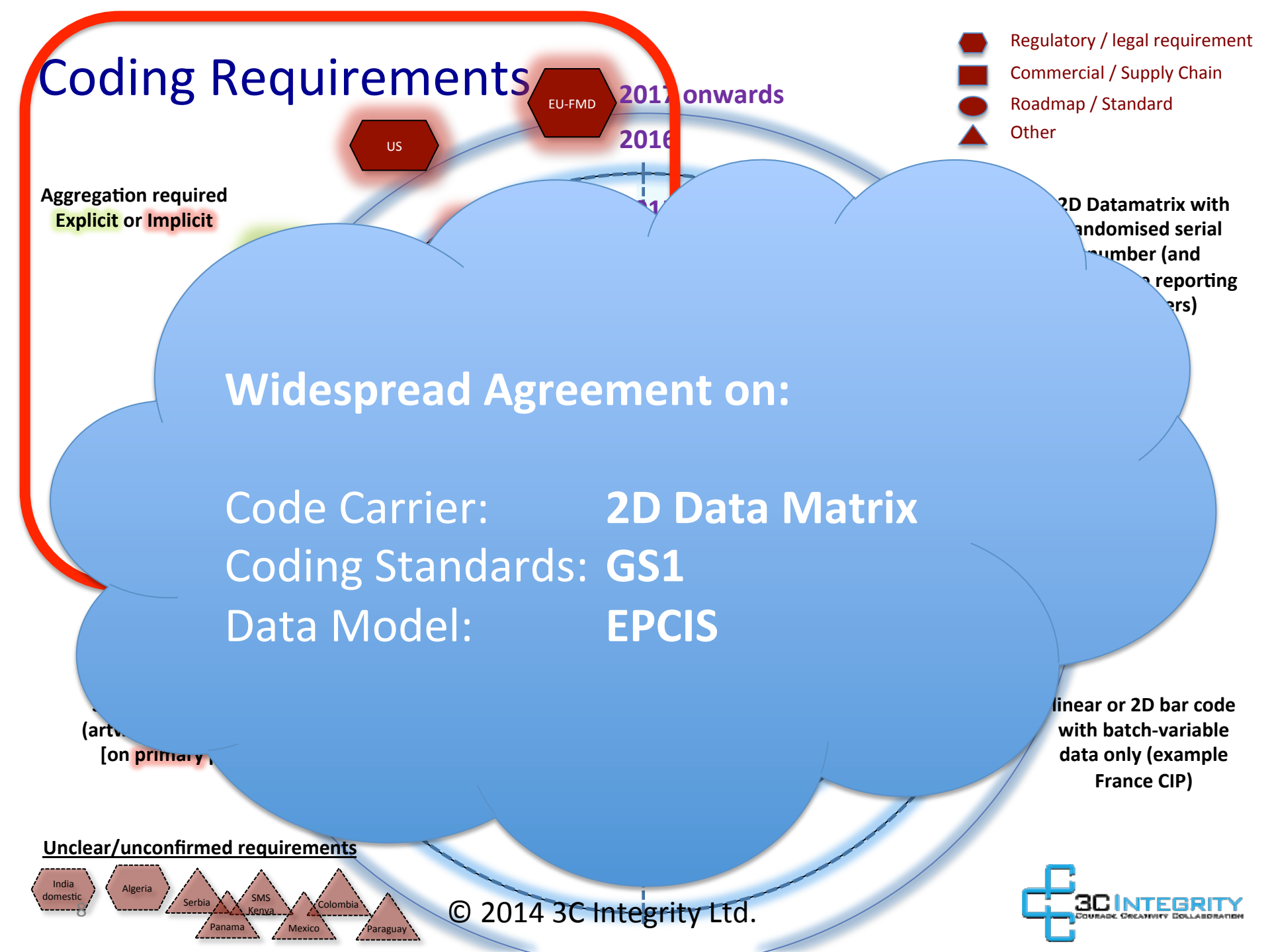
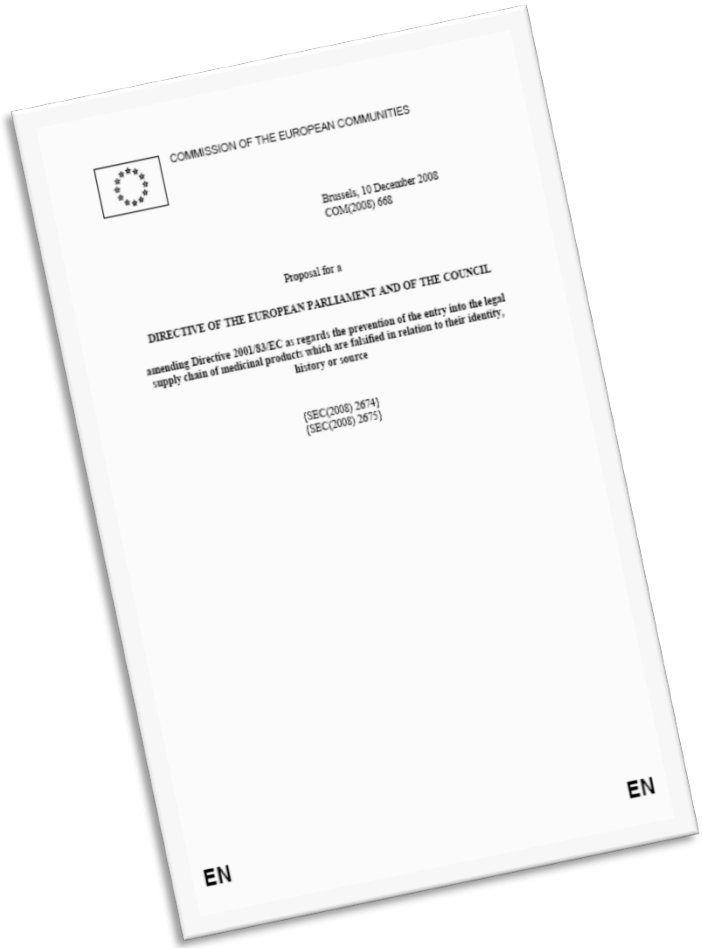


EU-FMD Key Requirements

Example: EU Falsified Medicines Directive



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10 December 2008
COM(2008) 668

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

amending Directive 2001/83/EC as regards the prevention of the entry into the legal supply chain of medicinal product: which are falsified in relation to their identity, history or source

{SEC(2008) 2674}
{SEC(2008) 2675}

EN

EN

- Directive published 1 July 2011
- Entered into force 1 January 2013
- Contains measures to increase security of the medicinal supply chain in Europe
  1. Strengthen Good Manufacturing and Good Distribution Practices including the sourcing of active ingredients
  2. Improve supervision of actors in the distribution chain (e.g. wholesalers, parallel distributors...)
  3. Ensure product integrity and authentication of medicines (safety features and product serialisation)

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EU FMD

What does the Directive mandate?

- Safety features that enable relevant persons to
  - ✓ "Verify…authenticity"
  - ✓ "Identify individual packs"
  - ✓ "Randomised number"
  - ✓ "Provide evidence of tampering"
- Risk-based approach: Rx included, OTCs excluded, but some exceptions (risk assessment)
- Obligations on Repackagers "equivalent" features, liability
- Govts can use the system for reimbursement and/or pharmacovigilance purposes
- MAHs will pay for the "repositories systems"

What will be determined by Delegated Act?

- Characteristics & technical specifications of the "unique identifier"
- "Extent and modalities of verification of the safety features" to "ensure the verification of authenticity of each dispensed pack"
- Criteria for the risk assessments / Black and White List
- Establishment (including accessibility) of the "repositories"

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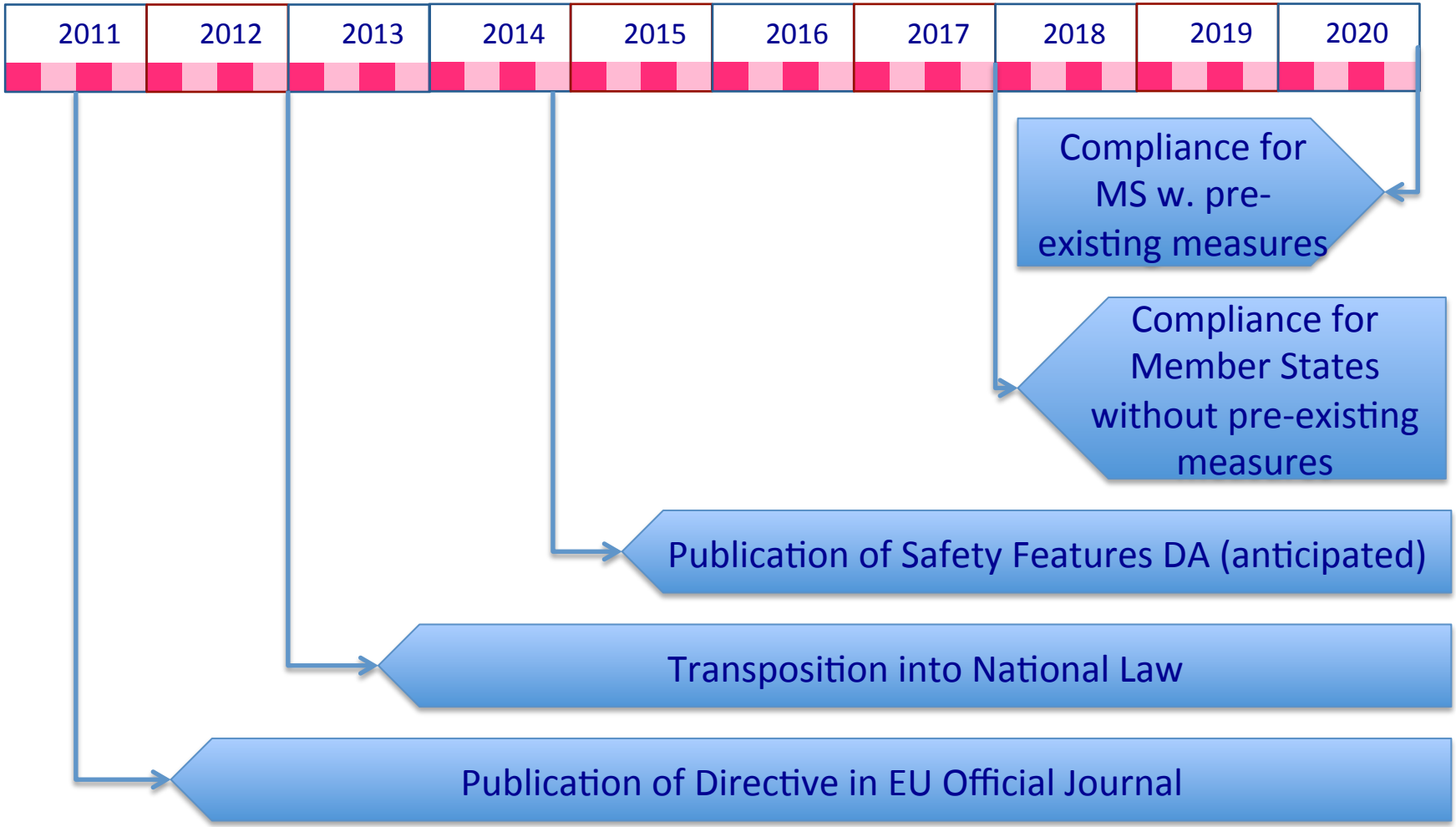
EU-FMD Timeline



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What do we know about the DA?

Area	Key Points	Impact
Characteristics & technical specifications of the "unique identifier" (UI)	1. UI = machine-readable 4- (or 5-) element code expressed as an ISO-standard 2D DataMatrix 2. May include a national product code 3. Include UI information as human-readable 4. UI barcode will take the place of all other visible barcodes on the packs	1. Familiar from other coding requirements including EFPIA's Sweden Pharmacy pilot in 2009/2010 2. There is little practical experience with 5-element codes in pharma 3. Incompatible with SecurPharm coding 4. Potentially massive pack artwork change

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Application of UI	1. manufacturing authorisation holder ("manufacturer") is responsible (i.e. would mean CMOs) 2. parallel importers can continue to use the original UI	1. Different to approach taken by the ESM (responsibility to upload UI should be with Brand Owners / Marketing Authorisation Holders) 2. Headache for ESM and the 'code ownership' approach to data validation.

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"Extent and modalities of verification of the safety features" to "ensure the verification of authenticity of each dispensed pack"	1. mandatory point-of-dispense check in 'pharmacies' 2. risk-based check undertaken by wholesalers (estimated 3% of cases) 3. obligation on wholesalers to check out UIs that are exported from the EU	1. As expected – ideal outcome for all stakeholders 2. Ditto 3. Headache for wholesalers; step towards T&T; may drive implicit requirement for aggregation

What do we know about the DA?

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Establishment (including accessibility) of the "repositories"	1. Stakeholder model given clear support 2. Performance criteria to "allow wholesalers and 'pharmacies' to work without 'significant delay'" 3. Allow verification of a barcode post dispense without triggering an alert 4. Allow verification / check out in a different market to the intended market.	1.  Excellent news for the EFPIA-led European Stakeholder Model coalition. 2.  Should be unproblematic for ESM system 3.  Nod towards future verification by patients even though this is currently not intended or supported by the ESM system 4.  Not compatible with the currently established ESM solution

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Criteria for the risk assessments / Black and White List	Currently under consultation through Member States who are asked to comment on the proposed criteria: 1. *The reimbursement price and the sales volume of the medicinal product;* 2. *The number and frequency of previous incidents of falsified medicines reported in the Union and in third countries;* 3. *The specific characteristic of the product;* 4. *The seriousness of the conditions intended to be treated;* 5. *Other potential risks to public health.*	Clear need to keep approach simple to ensure consistency across member states, brands and types of manufacturers. • Strict approach to those **prescription medicines** that could be eligible for the white list; excluding a) priced higher than a low limit (e.g. EUR 5.00) b) "Lifestyle drugs" c) life-saving or life-sustaining medicines • **Over-the-Counter medicines** will be blacklisted in cases where there is at least one documented counterfeit case within the EU or a 'collaborating third country'

What does this mean for MAHs?

The exact outcome of the Delegated Act (2014/2015) is not yet clear, but there are clear indications of the direction of travel:

Participation in a systems-based, Europe-wide Medicines Verification process is a given

- **MAH should start now to get ready**
- **The general direction is clear even if the exact route is not yet known**
- **Delaying is not an option**

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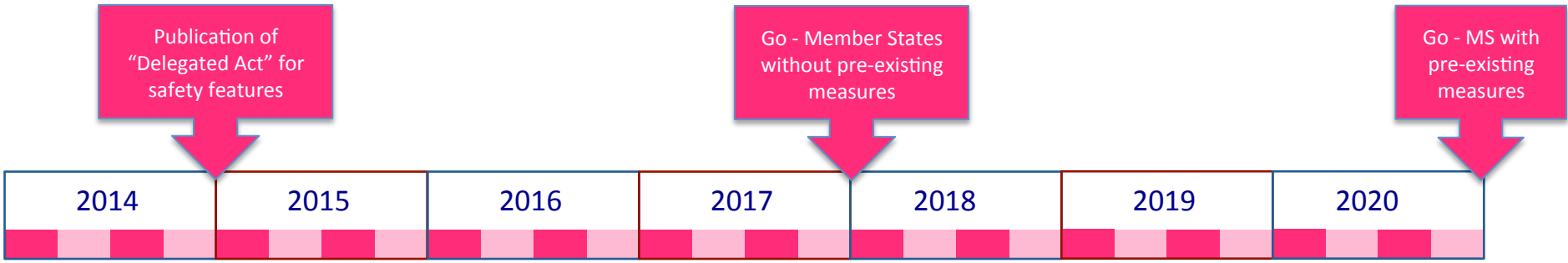
EUFMD „Hope for the Best, Plan for the Worst“



“The DA on the Safety Features will become applicable 3 years from its publication in the Official Journal (Article 2(2) of Directive 2011/62/EU). (6 years in those MS having an authentication system in place on 1 July 2011)

The Commission aims at adopting the Delegated Act by the end of 2014.

Publication in the OJ will follow in the first half of 2015, due to Parliament, Council and WTO scrutiny rights.

If this timing is respected, the Delegated act will become applicable sometimes in the first half of 2018” (1)

*Proposed 2-year **cut-over** to flush out slow-moving stock in pharmacies and supply chain*

*NOT **transition period** to give manufactures additional time*

“The Commission does not consider possible to derogate from the implementation period of 3 years …

Stakeholders should prepare for the 3 year implementation period without any transitional measures.”

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Serialisation Readiness

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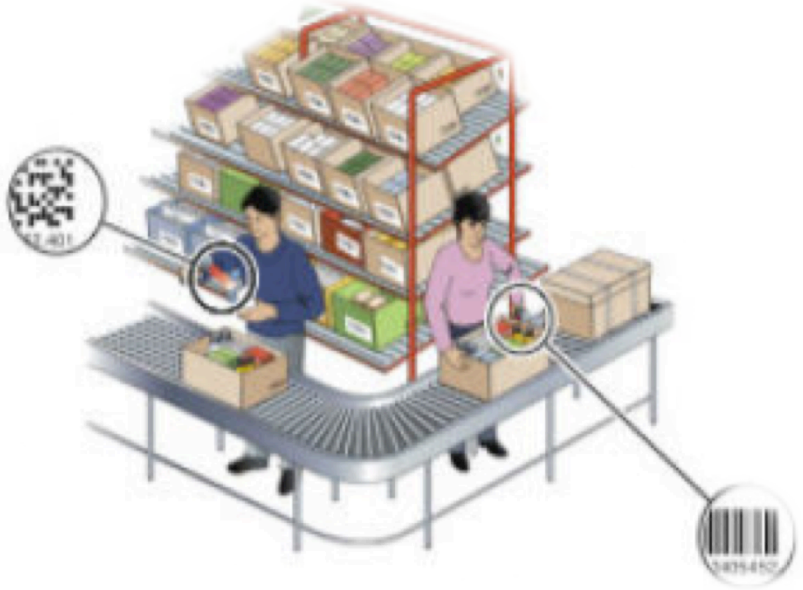
Serialisation is really easy…

Just put numbers on pack, collect them and put them in a database so they can be sent out to the authorities or supply chain partners, right?



So why are many companies struggling with their programmes, taking years and spending millions and taking a permanent productivity hit?

The Pace of Adoption

The Serialised Pack is Central

At-Line Coding
- Printing Technology
- Mechanical Handling
- Presentation of the Pack
- Inspection
- Grading

Carton and Artwork
- Pack Design
- Substrate
- Surface / Varnish
- Preprinted Information

The Right Code
- Bluebox Requirements
- GTIN/NTIN/NHRN
- Systems and Dataflow

Tamper-Evidence
- Labels?
- Interaction with the variable Data

The Technology Stack

Level 4
Business Logistics

Enterprise level

Number management

Master data

Query I/F

Repository

Capture I/F

Authentication services

Compliance module

WMS

Collaboration Layer

Level 3
Manufacturing Operations Management

Site Manager

Level 2
Production Control (supervisory)

Line Manager

HMI

Packing Line

Level 1
Production Control (manipulating)

Station Manager

Printer

Camera

RFID reader

Scanner

Scanner

Printer

Packaging

Distribution

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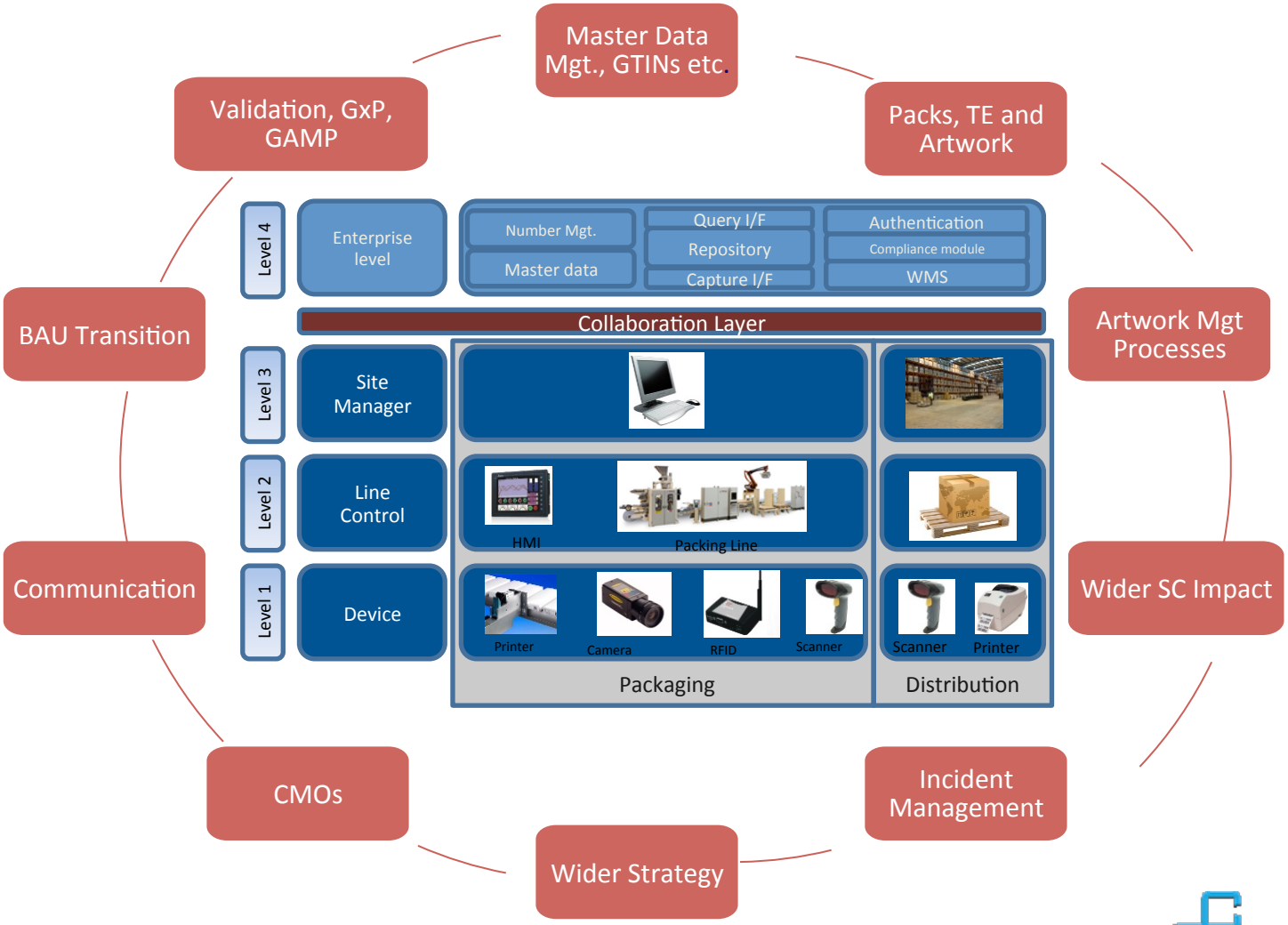
Technology does not exist in Isolation



You need a Coding Specialist!

Engaging your Senior Stakeholder

Project Organisation

Functions: / Teams:	Operations	Engineering	IT	Supply Chain / Logistics	Regulatory	Planning	Artwork	Quality	Validation	Product Security	Marketing / Commercial	External Sourcing	Procurement	Example FTE
Steering / Oversight Team	■			■	■					■	■			part time
Global Core Team	■	■	■	■	■			■		■		■	■	6 FTE
Site-based Implementation Team	■	■	■	■		■	■	■	■				■	30 FTE
Subteams (artwork, regulatory, master data & coding etc.)	■	■	■	■	■	■	■	■	■	■	■	■	■	part time
Example Pack Changes					■	■	■				■	■	■	3 FTE
Master data and Coding	■		■	■		■								
Ad-hoc support (security, marketing)														
External														
CMO														
Vendor														
Distributor														

You need the right team

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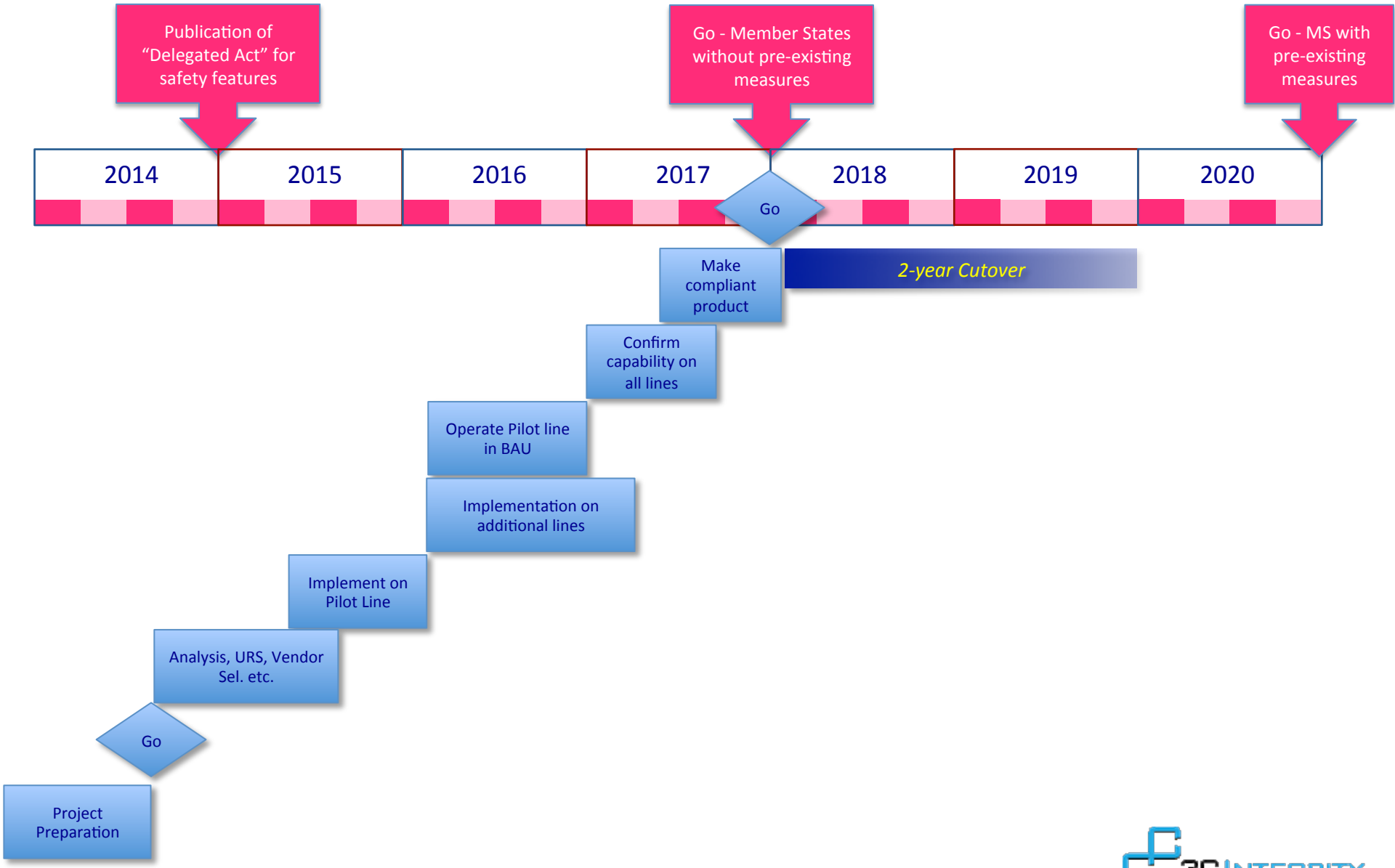
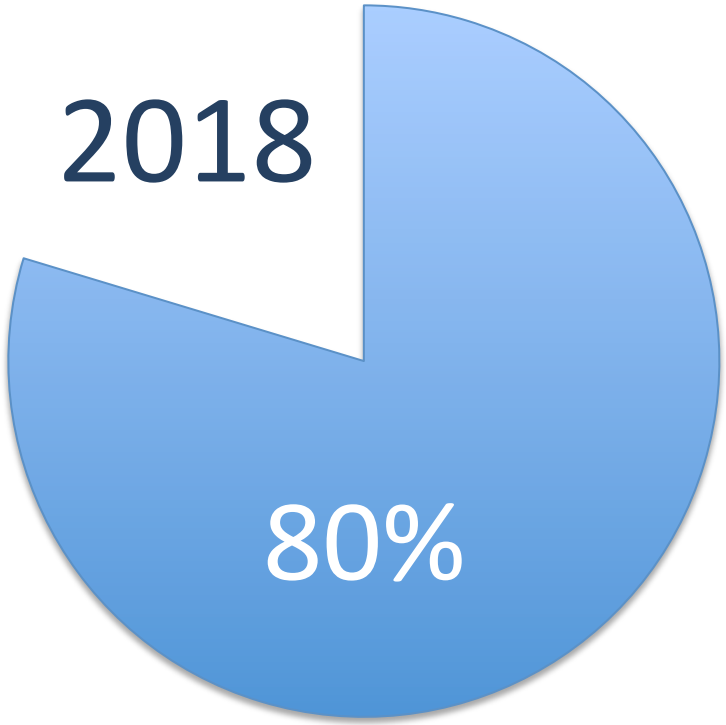


Your Business Plan?

Priority # 1:
Stay in business - do not lose 80% of our sales.



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Start! – Now!

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Conclusions

Expectation is that all prescription products will be tracked & traced by the 2020s, worldwide.

In key markets, participation in a systems-based verification will be required even earlier

Shift from Compliance focus to look at wider Opportunities and the key capabilities required:

- Item-level coding is going to be a critical core capability – without it you will not be able to manufacture and sell your products
- Chose an approach based on flexible, adaptable technology that will allow you to comply not just with the current but also future requirements
- Don't let the focus on Compliance blind you to the ultimate goal = Safer Medicines

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Don’t miss the train….

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Thank you very much for your attention!

christophk@3cintegrity.com

www.serialisation.guru