



EasyWay

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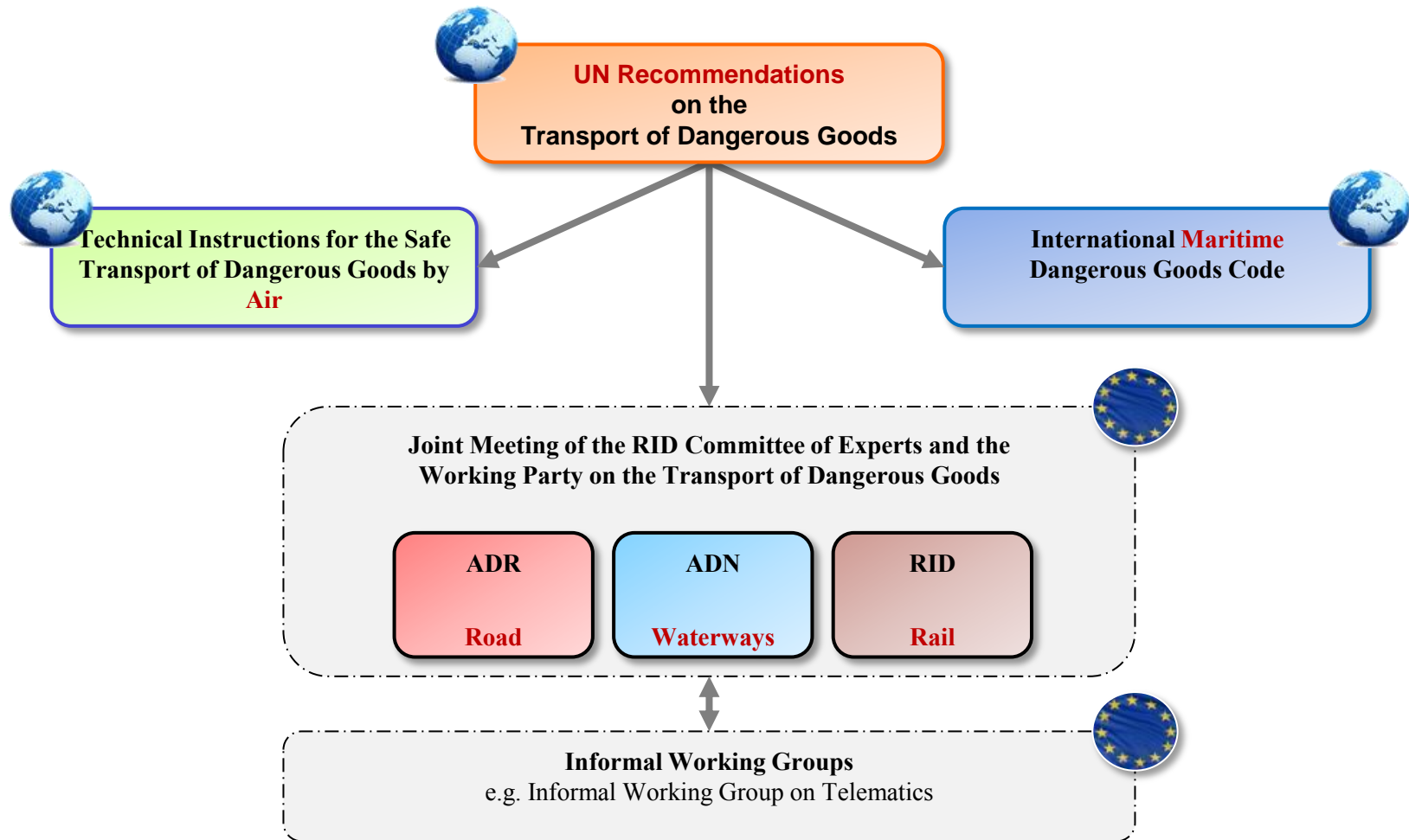
Jon Harrod Booth

**Extending the DATEX II Approach:
Dangerous Goods Transport
Regulations**

- **Context – a primer on DGT regulations**
- **Why develop a reference model?**
- **Use of the DATEX II Modelling Methodology**
- **The products and probable use**



Structure of the dangerous goods regulations



Dangerous Goods Regulations

- **Dangerous Goods Transport Regulations for inland transport modes, based on UN Recommendations on the Transport of Dangerous Goods (ECOSOC Committee of Experts on the Transport of Dangerous Goods, published in 1956)**
- **Road (ADR), launched in Geneva in 1957 under the aegis of the UNECE, took effect in 1968**
 - Inland waterways (ADN), launched in Geneva in 2000 under the aegis of the UNECE, took effect in 2008
 - Rail (RID), launched in Berne in 1980 under the aegis of the OTIF, took effect in 1999 (COTIF Annex C)
- **47 Member States in Europe, North Africa and the Near East**
- **Legislation**
 - Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods
- **Technical and legal update every 2 years by Joint Meeting**



Versioning of DGT Regulations



ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road (>1000 pages!)

- **The ADR regulates**

- the classification of dangerous goods and the corresponding safety and security measures
- labels and markings
- documentation e.g. transport document and instructions in writing
- construction of containers, tanks, vehicles for the dangerous goods transport
- exemptions from compliance with the rules of the ADR
- Personal/expert training (e.g. driver training certificate)

- **Observation**

- Growing influence of telematics systems on technical, organisational and administrative processes in DGT is currently not considered

- **Main questions**

- How to regulate telematics systems in DGT?
- Are there different requirements compared to “traditional” items of regulation?
- What framework conditions are required to enable potential integration of telematics regulation into ADN / ADR / RID?



Study on the Application of Telematics in Dangerous Goods Transport

Undertaken on behalf of Bundesministerium für Verkehr, Bau und Stadtentwicklung – German Federal Ministry of Transport, Building and Urban Development

As an input into Working Group Telematics of the Joint Meeting of the RID Committee of Experts and the Working Party on the Transport of Dangerous Goods (subgroup of the UNECE regulators)

- **Two outputs of this study are:**
 - A reference data model for Dangerous Goods Transport
 - An analysis of the most significant telematics applications for relevance for Dangerous Goods Transport regulation

Why have a reference data model?

Footprints of these regulations seen in several broader domains – e.g. DATEX I & II DGT etc

But the range of ITS applications and information is vast



Freight / Commercial

- E-documentation
- E-clearances
- Smart container management
- Fleet management
- Port Authority documents



Mobile

There are many communities of interest; no single standardiser, even Standards Body in control

Materials	
+ ch	String
+	TemperatureCelsius [0..1]
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	NonNegativeInteger [0..1]
	String [0..1]
	String [0..1]
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Incident & Emergency Response

- Remote notification
- Incident scene data access
- Incident management
- Additional information
- Information dissemination

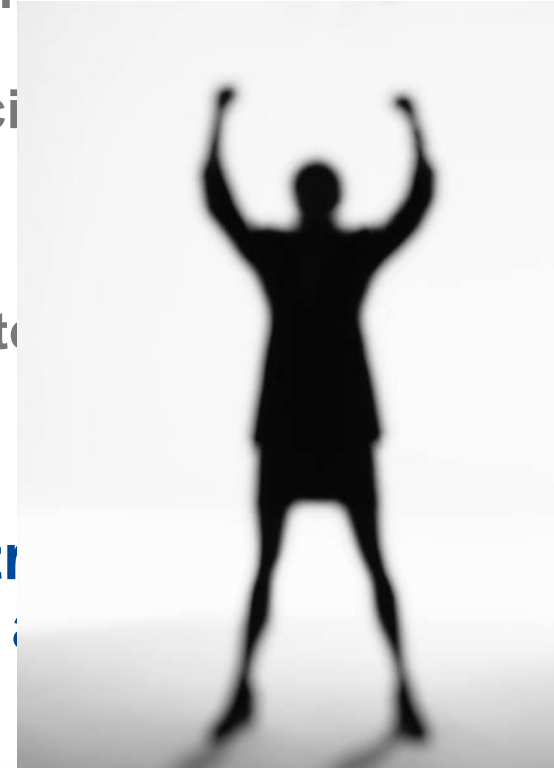
To avoid fragmentation & misalignment a preferred reference model is needed



- **The eCall community want to develop an eCall extension for Commercial Goods Vehicles (including DGT):**
 - eCall is standardised by CEN TC278 WG15
 - New Work Item launched (CEN TC278 - WI **00278284**)
 - early problems were seen with the eCall experts (WG15 & projects) trying to interpret/develop appropriate DGT data elements
- **At the same time the eFreight family of projects, similar US initiatives and the industry standardiser OASIS are trying to create common definitions for freight transportation (commercial focus) they too want to describe DGT data elements**
- **Other emergency response initiatives are also seeking to define DGT concepts (see ISO 17687 - *Data dictionary and message sets for electronic identification and monitoring of hazardous materials/dangerous goods transportation*)**

- **A plug for the DATEX II methodology!**
- **Used as the basis for the draft DGT domain model**
 - A high level overview of the domain of international cross-border goods transport (“domain model” or “ontology” – based on high level concepts, not tied to particular applications)
 - An input to future standardisation and certification processes (on lower, more technical levels)
 - Defined as a Platform Independent Model – specific to the domain
 - Supports profiling
 - A good level of abstraction
 - With easy machine-supported transformation into other languages
 - Offering long-term stability
- **The model is being promoted with industry stakeholders and standardisation groups**

Very well received by a new industry stakeholder group



Is this a model for cross domain standardisation?

- **Standards working groups tend to be siloed & non-co-operative**
- **This approach has potential to be different...**
- **One group standardises the reference data model, ensuring it remains aligned to the regulations (WG2 of CEN TC278)**
- **Other groups use/refer to this model for their domain/application specific standards...**
 - **eCall** **CEN TC 278 WG15**
 - **eFreight** **OASIS UBL**
 - **DATEX II** **CEN TC 278 WG8**
 - **TARV** **ISO TC 204 WG7**

Is this approach new?

- **No!**
 - One can see this approach in the ISO recommendations/standards on the use of data registries
 - And the work on common components done in the ITS Registry in the UK
 - And the OASIS UBL work on common components
- **Why should it be done? Benefits can be described for regulators as well as commercial actors in the market – alignment with logistics standards might provide added value in terms of safety and security whilst actually reducing cost by allowing for paperless transport.**



What happens next?

- **There is a dialogue between regulators and standardiser about progressing standardisation of the reference data model**
 - CEN TC 278 WG2 prepared to support this model
 - The regulators can see value in promotion of a standardised reference model – but there may also be a desire to field test first
 - Other application oriented specification developers and standardisation groups should be made aware of & encouraged to use the reference model eg. OASIS, CEN TC278 WG8, CEN TC278 WG15, ISO TC 204 WG7



But is this an isolated instance?

- **No!**
- **The Public Transport, Traffic and Traveller Information and Traffic Management Control Centres Working Groups are being challenged with cross cutting issues**
- **Co-operative systems demands greater coherence across a wide range of domains / applications**
- **This is a wider general challenge – but the DGT reference model is an interesting case study**



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