European Railway Agency

The meeting of the Working Group on Tank and Vehicle Technology

Presentation on

Derailment Detection and Dangerous Goods Telematics

Munich, 15 June 2007

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1. Interfaces between RID and EU legislation/ERA tasks
2. Derailment detection
3. Dangerous goods telematics

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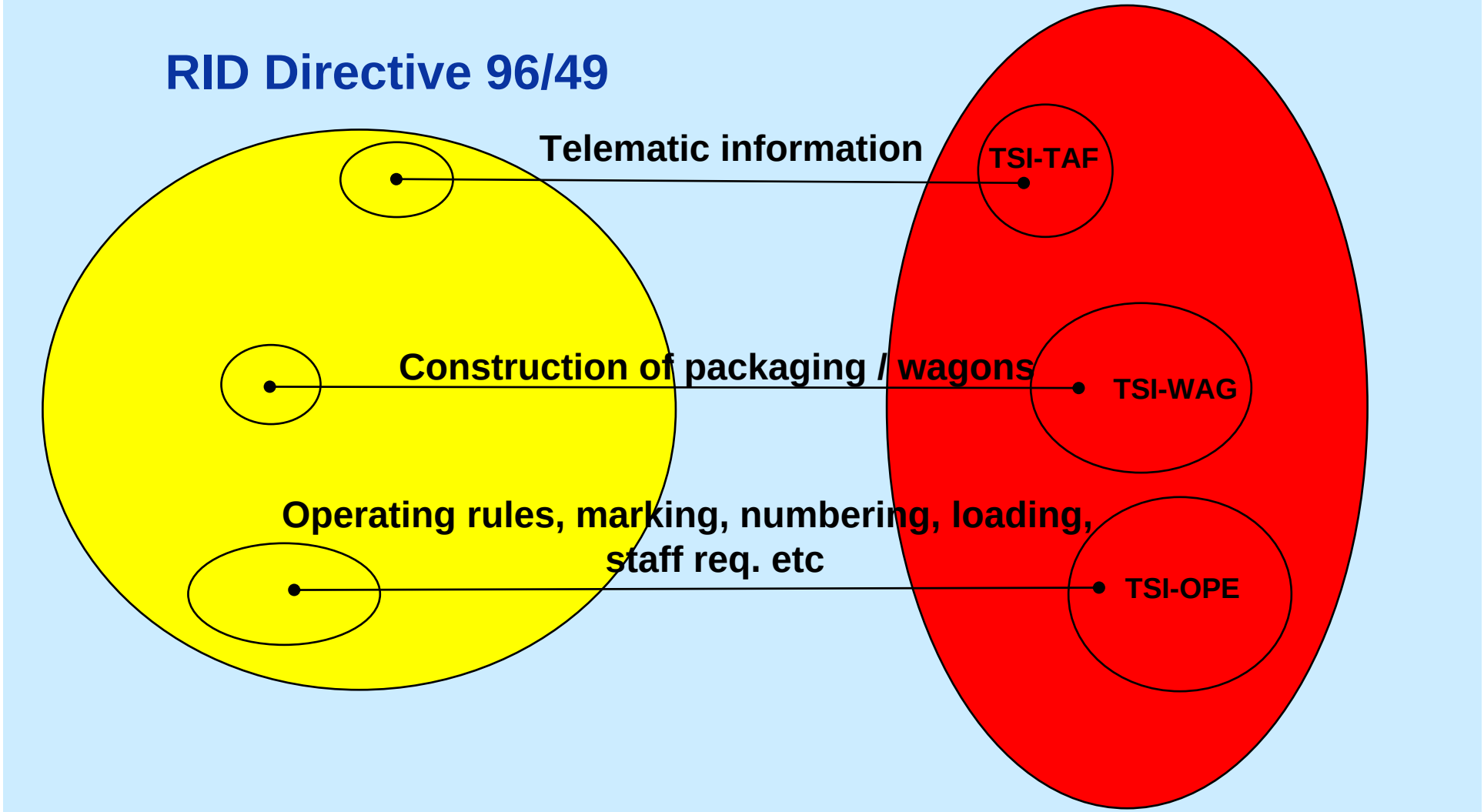
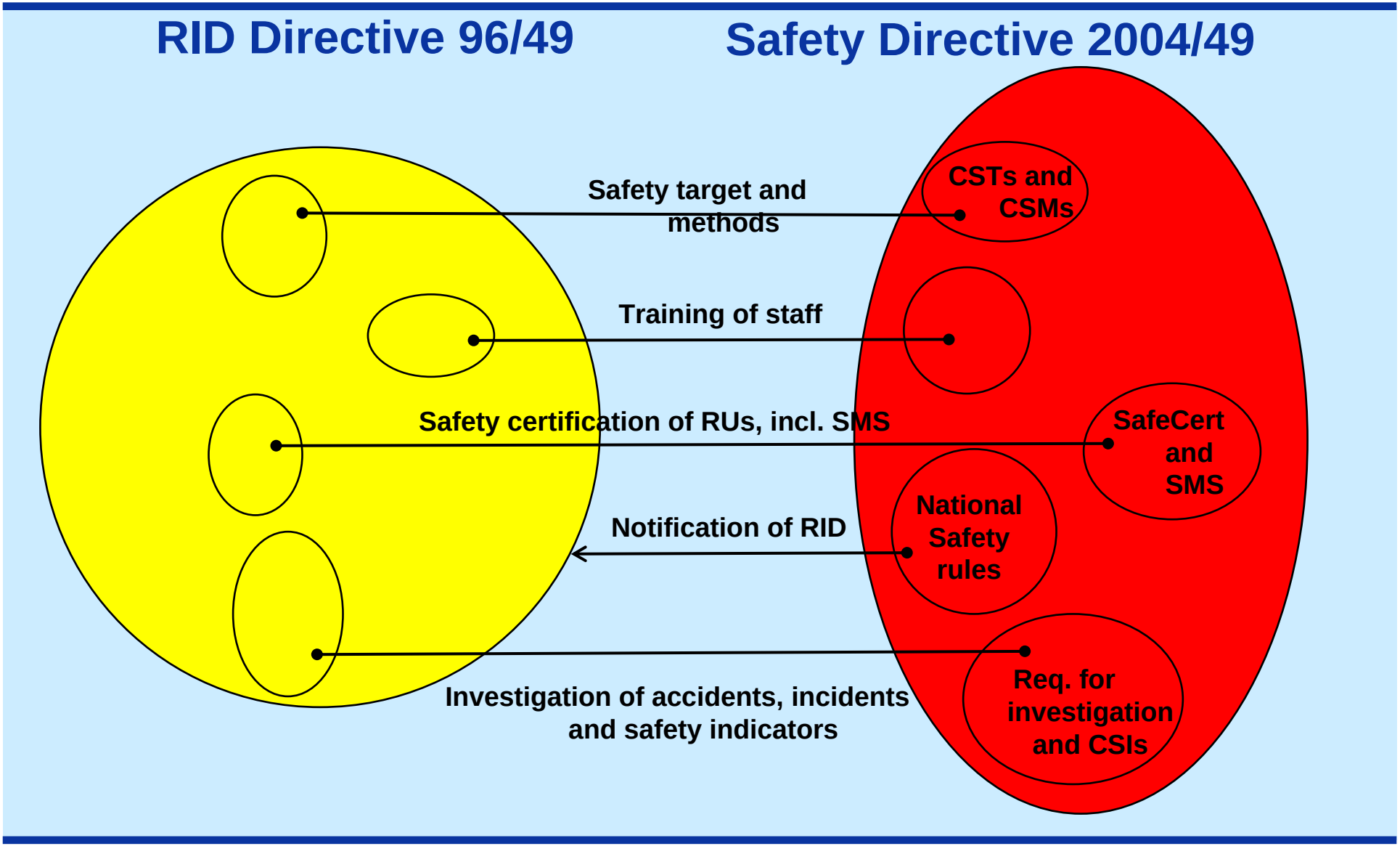
Content

1. Interfaces between RID and EU legislation/ERA tasks

1 – Interfaces between RID and ERA tasks



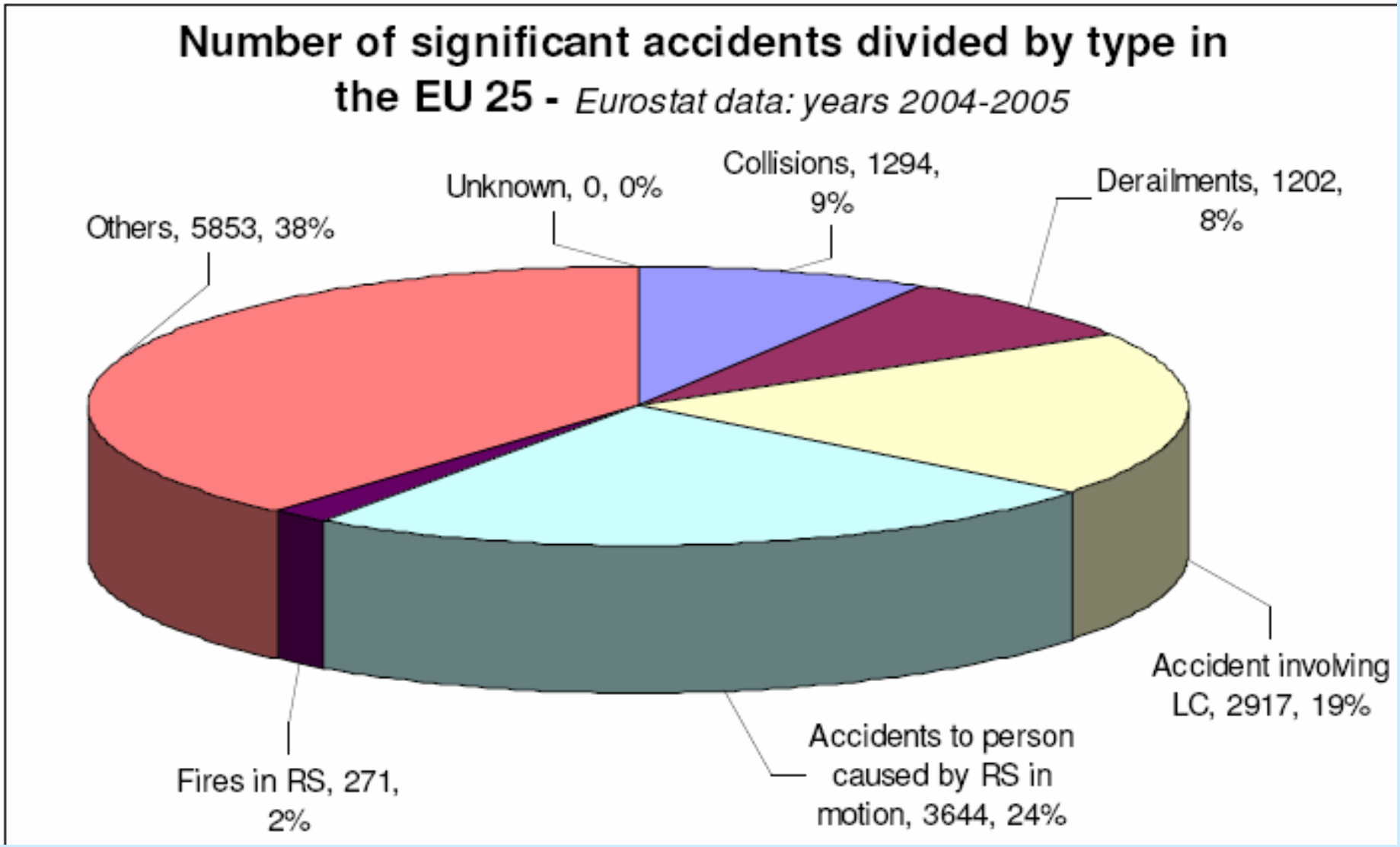
1 – Interfaces between RID and ERA tasks

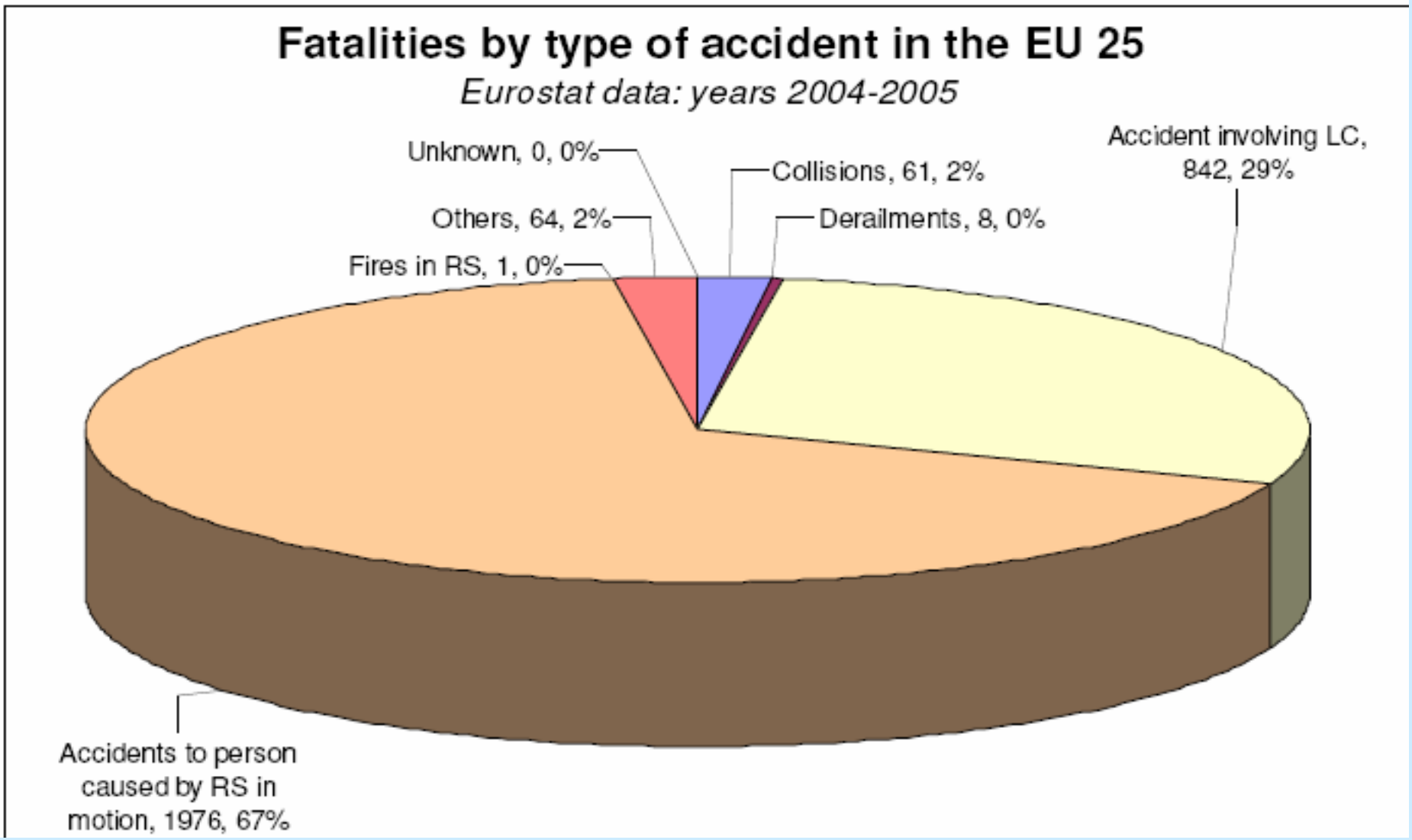


2. Derailment detection

ERA will monitor the need to reduce the level of risk for hazardous events e.g. derailments:

- **This might be the case when statistical analysis indicates that:**
  - **the risk level for the whole railway system is too high in comparison with defined targets or other transport modes**
  - **derailments strongly influence the level of risk for the whole railway system**
  - **there might be a general negative trend on derailments over the years**


Number of significant accidents divided by type in the EU 25 - Eurostat data: years 2004-2005
Others, 5853, 38%
Unknown, 0, 0%
Collisions, 1294, 9%
Derailments, 1202, 8%
Accident involving LC, 2917, 19%
Accidents to person caused by RS in motion, 3644, 24%
Fires in RS, 271, 2%


Fatalities by type of accident in the EU 25
Eurostat data: years 2004-2005
Unknown, 0, 0%
Collisions, 61, 2%
Accident involving LC, 842, 29%
Others, 64, 2%
Derailments, 8, 0%
Fires in RS, 1, 0%
Accidents to person caused by RS in motion, 1976, 67%

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3 – Dangerous goods telematics

	Number of accidents								
	Involving dangerous goods			Releasing dangerous goods			Number of accidents involving dangerous goods per billion tkm of dangerous goods transport		
	2004	2005	2004 and 2005	2004	2005	2004 and 2005	2004	2005	Average 2004 and 2005
Belgium	0	0	0	0	0	0	0	0	0
Czech Republic	0	0	0	0	0	0	0	0	0
Denmark	3	2	5	0	0	0	32	17	24
Germany	14	5	19	2	0	2	1	0	1
Estonia	0	4	4	0	0	0	0	1	0
Ireland	0	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0	0
Spain	6	9	15	2	0	2	2	3	3
France	4	5	9	3	2	5	1	:	:
Italy	0	0	0	0	0	0	0	0	0
Cyprus	-	-	-	-	-	-	-	-	-
Latvia	0	0	0	0	0	0	0	0	0
Lithuania	5	7	12	0	0	0	1	2	1
Luxembourg	0	0	0	0	0	0	0	0	0
Hungary	0	0	0	0	0	0	0	0	0
Malta	-	-	-	-	-	-	-	-	-
Netherlands	2	5	7	0	0	0	4	10	7
Austria	23	21	44	19	20	39	16	15	15
Poland	1	1	2	0	0	0	:	0	:
Portugal	0	1	1	0	0	0	0	13	7
Slovenia	0	:	:	0	:	:	0	:	:
Slovakia	0	0	0	0	0	0	0	0	0
Finland	0	0	0	0	0	0	0	0	0
Sweden	13	3	16	7	0	7	12	3	8
United Kingdom	4	11	15	2	9	11	3	9	6
EU-25 (no SI)	**75**	**74**	**149**	**35**	**31**	**66**	:	:	:
Liechtenstein	0	0	0	0	0	0	-	-	-
Norway	0	2	2	0	2	2	:	5	:

If there is a need to reduce the risk of derailments, ERA would examine:

- The causes / hazards for derailments, including:
  - Construction, maintenance and inspection of rolling stock and infrastructure
  - Operating rules
  - Requirements for staff training and maintenance of competence
  - The safety management systems of the organisations
  - The regulatory systems:
    - requirements for authorities to monitor or assess the adherence to the rules
    - investigation of accidents/incidents

ERA would also examine the equipment that monitor if there is a derailment or if a derailment is likely to occur:

- **Hot axle box or derailment detection equipment on-board the rolling stock**
- **Hot axle box or derailment detection equipment placed at regular intervals along the trackside**

Risk assessments and economic evaluations would be carried out to identify the optimal solution(s)

Currently ERA has no basis to initiate work to reduce the level of risk of derailment.

If the answers to these questions show the need to reduce risk:

1. **Is there any analysis of the need to reduce the risk of derailment involving the transport of dangerous goods, incl. comparison of the different transport modes?**
2. **Would improvements in RID reduce the consequences in the event of a derailment?**
3. **Is there documentation that calls for a reduction in the level of risk in the railway system - by how much?**

Then, ERA will examine the most efficient and economic way to implement appropriate changes as part of the work on the TSIs

3. Dangerous goods telematics

3 – Dangerous goods telematics

- **The Commission Decision (EC) No 62/2006 for Technical Specification for Interoperability relating to Telematic Applications for the Freight (TSI TAF) for the conventional railway system came in force on 23 December 2005. Mainly commercial purpose.**
- **Strategic European Deployment Plan (SEDP) is under discussion.**
- **The dangerous goods wagons can be tracked and traced to some extent by the system described in TSI TAF.**
- **Revision of the TSI-TAF is not planned at present, but may be necessary in the future.**
- **ERA suggests the WG examine if the current TSI TAF provides a solution for tracing and tracking**
- **Proposals for changes to the TSI TAF should be sent to ERA for appraisal to include in any future revision of the TSI TAF**

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Thank you for your attention!