



ECTP Conference 2006

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***ETPIS, an opportunity for
a sustainable European
industry growth***

Synergies with ECTP



INERIS

Olivier SALVI, Scientific Manager



RATIONALE & OBJECTIVES

Why synergies between ETPIS and ECTP ?

The Facts

- **Accidents at work** in industry kill 1 person every 2 hours and injure 1 person every 5 seconds [Eurostat, 2004]
- In EU-15 (2001), the death toll is approximately [Eurostat, 2004] **4 900 every year** from a total of **7.6 million accidents** (4.9 million resulted in > 3 days of absence)
- In 2002 in new EU MS, almost **2.5 million accidents** at work and 1 400 fatalities were recorded [ILO, 2004]
- Cost of accidents at work and occupational diseases in EU-15 ranges for most countries from **2.6 to 3.8%** of Gross National Product (GNP). [www.ilo.org]

Table A.10: Accidents at work by economic activity, sex, age and year. EU-15, with more than 3 days' absence.

	2000: Employment (¹) (1000)	Number 2000	Incidence rate (per 100 000 workers)								Evolution of incidence rate (%)	
			1994	1995	1996	1997	1998	1999	2000	2001	1996- 2000	1999- 2000
All NACE branches	142 230	4 815 629										
9 NACE branches(²)	101 551	4 078 455	4 539	4 286	4 229	4 106	4 089	4 088	4 016	3 830*	-5.0	-1.8
Males	63 042	3 252 664	5 960	5 534	5 458	5 291	5 268	5 253	5 160	4 904*	-5.5	-1.8
Females	34 175	867 023	1 936	1 864	1 924	1 865	1 890	1 909	1 952	1 891*	1.4	2.2
18-24 years	12 381	725 056	:	:	5 751	5 613	5 725	5 904	5 856	5 523*	1.8	0.9
25-34 years	29 233	1 177 800	:	:	4 390	4 210	4 179	4 118	4 029	3 867*	-8.2	-2.2
35-44 years	27 288	1 007 348	:	:	3 766	3 696	3 678	3 703	3 692	3 511*	-2.0	-0.3
45-54 years	21 001	719 025	:	:	3 558	3 548	3 543	3 521	3 424	3 237*	-3.8	-2.8
55-64 years	8 972	311 780	:	:	4 083	3 671	3 602	3 577	3 475	3 309*	-14.5	-2.9
Agriculture	5 153	341 388	6 498	6 123	6 771	6 647	6 790	7 060	6 625	6 158*	-2.2	-6.2
Manufacturing	30 057	1 328 898	5 071	4 962	4 680	4 607	4 492	4 471	4 421	4 280*	-5.1	-1.1
Manufacture of food products; beverages and tobacco	3 377	210 141	7 360	6 920	6 557	6 550	6 323	6 264	6 223	6 174*	-5.1	-0.7
Manufacture of textiles and textile products	2 178	58 315	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacture of leather and leather products	489	13 040	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacture of wood and wood products	930	91 186	10 200	10 100	10 000	10 000	10 000	10 000	10 000	10 000		
Manufacture of pulp, paper and paper products; publishing and printing	2 567	67 102	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacture of coke, refined petroleum products and nuclear fuel	172	1 427	1 200	1 100	1 000	1 000	1 000	1 000	1 000	1 000		
Manufacture of chemicals, chemical products and man-made fibres	2 029	40 320	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacture of rubber and plastic products	1 349	58 243	4 200	4 100	4 000	4 000	4 000	4 000	4 000	4 000		
Manufacture of other non-metallic mineral products(³)	1 160	78 791	6 518	6 418	6 318	6 318	6 318	6 318	6 318	6 318		
Manufacture of basic metals and fabricated metal products	4 323	361 417	8 650	8 550	8 450	8 450	8 450	8 450	8 450	8 450		
Manufacture of machinery and equipment n.e.c.	3 318	113 089	3 200	3 100	3 000	3 000	3 000	3 000	3 000	3 000		
Manufacture of electrical and optical equipment	3 381	89 251	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacture of transport equipment	3 040	82 875	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Manufacturing n.e.c.	1 744	69 700	4 200	4 100	4 000	4 000	4 000	4 000	4 000	4 000		
Electricity, gas and water supply	1 132	17 125	1 200	1 100	1 000	1 000	1 000	1 000	1 000	1 000		
Electricity, gas, steam and hot water supply	905	11 006	1 200	1 100	1 000	1 000	1 000	1 000	1 000	1 000		
Collection, purification and distribution of water	228	6 119	2 200	2 100	2 000	2 000	2 000	2 000	2 000	2 000		
Construction	11 206	845 941	9 014	8 914	8 814	8 814	8 814	8 814	8 814	8 814		
Wholesale and retail repairs	21 483	542 188	2 552	2 452	2 352	2 352	2 352	2 352	2 352	2 352		
Hotels and restaurants(⁴)	5 633	213 511	4 121	4 021	3 921	3 921	3 921	3 921	3 921	3 921		
Transport, storage and communication(⁵)	8 155	449 487	6 139	6 039	5 939	5 939	5 939	5 939	5 939	5 939		
Land transport; transport via pipelines	3 224	190 683	5 732	5 632	5 532	5 532	5 532	5 532	5 532	5 532		
Water transport	89	4 333	4 933	4 833	4 733	4 733	4 733	4 733	4 733	4 733		
Air transport	381	13 457	5 470	5 370	5 270	5 270	5 270	5 270	5 270	5 270		
Supporting and auxiliary transport activities; activities of travel agencies	2 100	181 381	11 580	11 480	11 380	11 380	11 380	11 380	11 380	11 380		
Financial intermediation; real estate, renting and business activities	18 732	340 038	1 638	1 538	1 438	1 438	1 438	1 438	1 438	1 438		

From
[Eurostat, 2004]

in year 2000,
845 841 accidents in construction sector
(17.5 %, 7.7 % employees)

1 328 898 accidents in manufacturing
(27 %, 21.1 % employees)

40 320 in chemical industry
(0.84 %, 1.4 % employees)

among 4 815 629 accidents in all sectors
(more than 3 days absence)

(¹) 9 NACE branches : Agriculture, Manufacturing, Electricity gas water supply (excluded in 1994), Construction, Financial intermediation, Real estate business activities.

(²) Glass, ceramic goods, construction products.

(³) Incidence rates exclude Portugal before 1996.

(⁴) NACE Section I 'Transport, storage and communication' also includes Division I64 'Post and telecommunication'.

(⁵) Persons in employment covered by the data on accidents.

* Provisional data for 2001 (PT = 2000 data).

NB: For some cases the gender or age is unknown, or the age is < 18 years or > 64 years. Therefore the total and the sum of categories may differ.

Source: Eurostat - European Statistics on accidents at work (ESAW)

Table A.11: Accidents at work by economic activity, sex, age and year. EU-15, fatal accidents.
 Including road traffic accidents on board of any means of transport in the course of work.

	2000 Employment ⁽¹⁾ (1000)	Number 2000	Incidence rate (per 100 000 workers)							Evolution of incidence rate (%)		
			1994	1995	1996	1997	1998	1999	2000	2001	1995- 2000	1999- 2000
All NACE branches	142 230	5 237										
9 NACE branches ⁽²⁾	101 551	4 620	6.1	5.9	5.2	5.2	5.0	4.8	4.6	4.2*	-11.8	-4.3
Males	63 042	4 425			7.7	7.7	7.4	7.1	7.0	6.5*	-8.6	-1.4
Females	38 175	213			0.0	0.0	0.0	0.7	0.6	0.5*	-10.0	-43.4
10-24 years	12 261	412			3.6	3.7	3.6	3.4	3.3	2.6*	-44.2	-2.7
25-34 years	29 233	942			4.2	3.9	3.9	3.6	3.2	3.2*	-21.4	-10.0
35-44 years	27 206	1 153			4.7	4.9	4.6	4.3	4.2	3.7*	-7.7	-6.6
45-54 years	21 001	1 186			6.2	6.0	6.1	5.9	5.6	5.1*	-11.6	-5.3
55-64 years	8 872	717			8.7	8.9	8.1	8.0	8.0	7.5*	-3.8	0.0
Agriculture	5 153	651	14.0	13.0	12.9	12.4	12.4	13.2	12.6	11.8*	-2.1	-5.0
Manufacturing	20 057	976	4.6	4.2	3.8	4.0	3.7	3.4	3.2	3.2*	-10.7	-4.5
Manufacture of food products, beverages and tobacco	3 377	134	9.2	5.2	4.7	4.6	4.4	3.6	4.0	3.8*	-15.6	10.2
Manufacture of textiles and textile products	2 178	29			2.1	1.4	1.5	1.8	1.4	1.4*	-4.9	-6.9
Manufacture of leather and leather products	469	6			2.1	1.7	1.7	1.9	2.4	1.6*		
Manufacture of wood and wood products	950	69			9.5	8.5	9.1	8.9	8.1	6.3*	-42.7	15.9
Manufacture of pulp, paper and paper products, publishing and printing	2 567	32										
Manufacture of coke, refined petroleum products and nuclear fuel	172	0										
Manufacture of chemicals, chemical products and man-made fibres	2 029	44										
Manufacture of rubber and plastic products	1 349	26										
Manufacture of other non-metallic mineral products ⁽³⁾	1 160	113										
Manufacture of basic metals and fabricated metal products	4 323	277										
Manufacture of machinery and equipment n.e.c.	3 318	60										
Manufacture of electrical and optical equipment	3 281	69										
Manufacture of transport equipment	3 040	36										
Manufacturing n.e.c.	1 744	41										
Electricity, gas and water supply	1 132	42										
Electricity, gas, steam and hot water supply	905	35										
Collection, purification and distribution of water	226	7										
Construction	11 206	1 279										
Wholesale and retail repairs	21 403	461										
Hotels and restaurants ⁽⁴⁾	5 833	73										
Transport, storage and communication ⁽⁵⁾	8 155	685										
Land transport, transport via pipeline	3 224	687										
Water transport	69	18										
Air transport	361	22	7.9	6.0	5.7	4.3	5.3	4.2	5.8	3.2*		
Supporting and auxiliary transport activities, activities of travel agencies	2 103	117	10.2	13.0	10.0	11.3	10.2	9.1	5.6	7.0*	-44.4	-50.9
Financial, intermediate, real estate, renting and business activities	18 732	271	2.2	1.8	1.8	1.8	1.7	1.8	1.4	1.3*	-9.6	-9.6

From
[Eurostat, 2004]

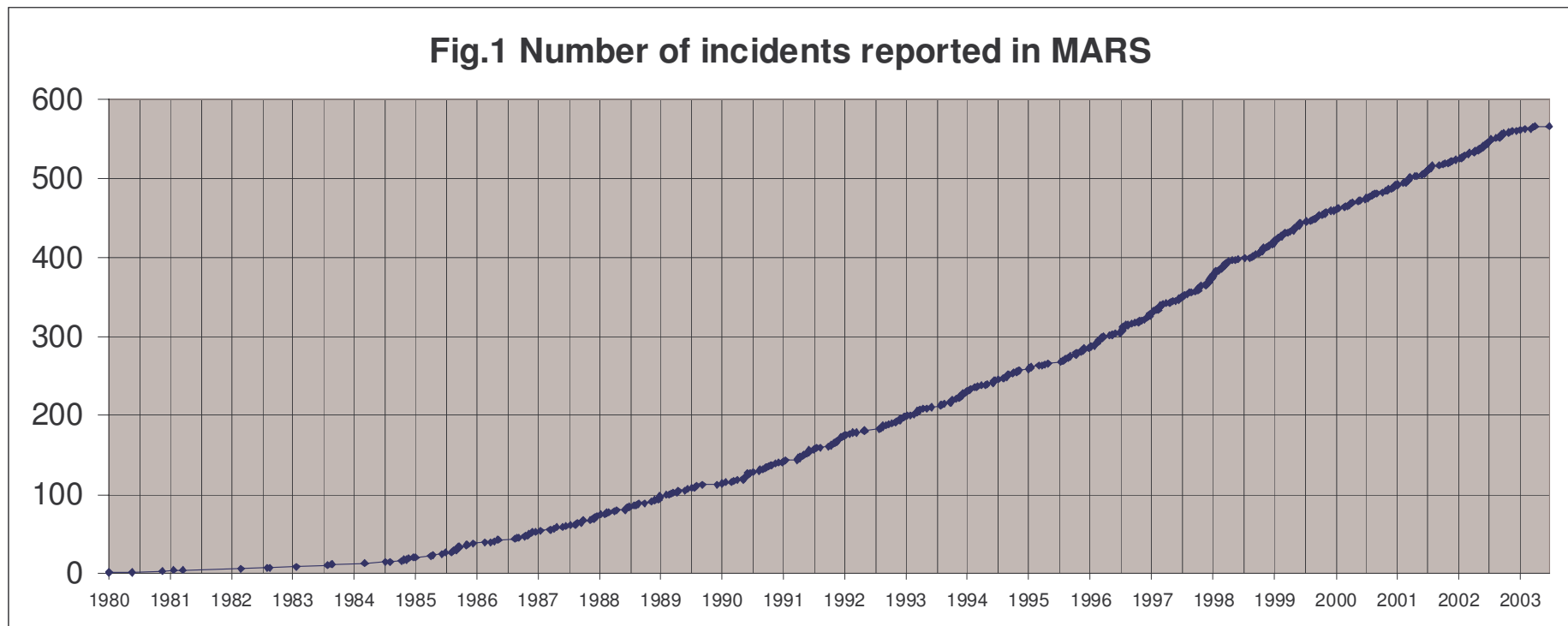
in year 2000,
1 279 fatal accidents in construction (24.4 %)
976 fatal accidents in manufacturing (18.6 %)
44 fatal accidents in chemical industry (0.84 %)
among 5 237 fatal accidents in all sectors

(1) 9 NACE branches: Agriculture, Manufacturing, Electricity, gas, water supply (excluded in 1994), Construction, Wholesale and retail repairs, Hotels and restaurants, Transport, communication.
 Financial intermediation, Real estate business activities.
 (2) Glass, mineral products, construction products.
 (3) Incidence rates exclude Portugal before 1996.
 (4) NACE Section I 'Transport, storage and communication' also includes 'Postal and telecommunications'.
 (5) Persons in employment covered by the data on accidents.
 * Provisional data for 2001 (FT = 2000 data).

Source: Eurostat - European Statistics on accidents at work (ESAW)

The Facts

- Major Accident Reporting System : ~ 30 major accidents / year (corresponding to annex 6 of the Seveso directive)



The Facts



The Facts



ETP Industrial Safety - Objectives

- To gain 'Safety for the Sustainable Growth of all European Industry' by reducing the number of accidents & supporting safe technological & method innovation
- To bridge the different aspects of "industrial safety" (EH&S)
- To facilitate and accelerate the breakthrough for progress in industrial environmental, health & safety (EH&S) via a co-ordinated, integrated research & implementation process.
- To valorise, exploit and implement the results.

Operating ETPIIS to defragment R&D



Identify and collect needs to improve industrial safety

Prepare and share the Roadmap for industrial safety



- Risk assessment and management methods**
- Advanced risks reduction technologies**
- Structural safety**
- Human and organisational factors**
- Emerging risks**
- HUB Education, training, transfer to industry**
- HUB Nanosafety**
- HUB Transport systems and tunnels**
- HUB Large scale experiment facilities (NEXIS)**



The Strategic Research Agenda

Where to work together ?

(from the ECTP SRA)

Where to work together ?

- 1. Meeting client requirements
 - 1.1. Healthy, Safe and Accessible Indoor Environment for All**
Possibility of evacuation for all
 - 1.3. Efficient Use of Underground Spaces**
Safety (fire, explosion...) of UG facilities
... Bury Industrial Facilities
 - 1.4. Mobility and Supply through Efficient Networks**
Management of risks and emergencies
Optimise security of networks, incident

Where to work together ?

- 2. Becoming sustainable

- **2.2. Reduce Environmental and Man-Made Impacts**

- Environmental impact of accidents

- **2.3. Sustainable Management of Transports & Utilities**

- Response of infrastructure to natural and man-made hazards

- **2.5. Improve Safety and Security (natural and man-made hazards - NaTech) (FA Quality of Life)**

- Risk assessment methods

- Development of European guidelines

- Prediction – simulation tools

- Protection systems

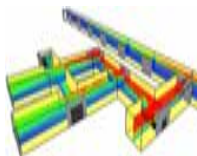
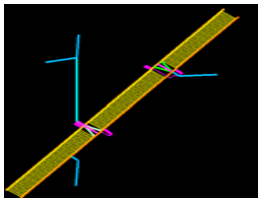
- Safety and security of infrastructure

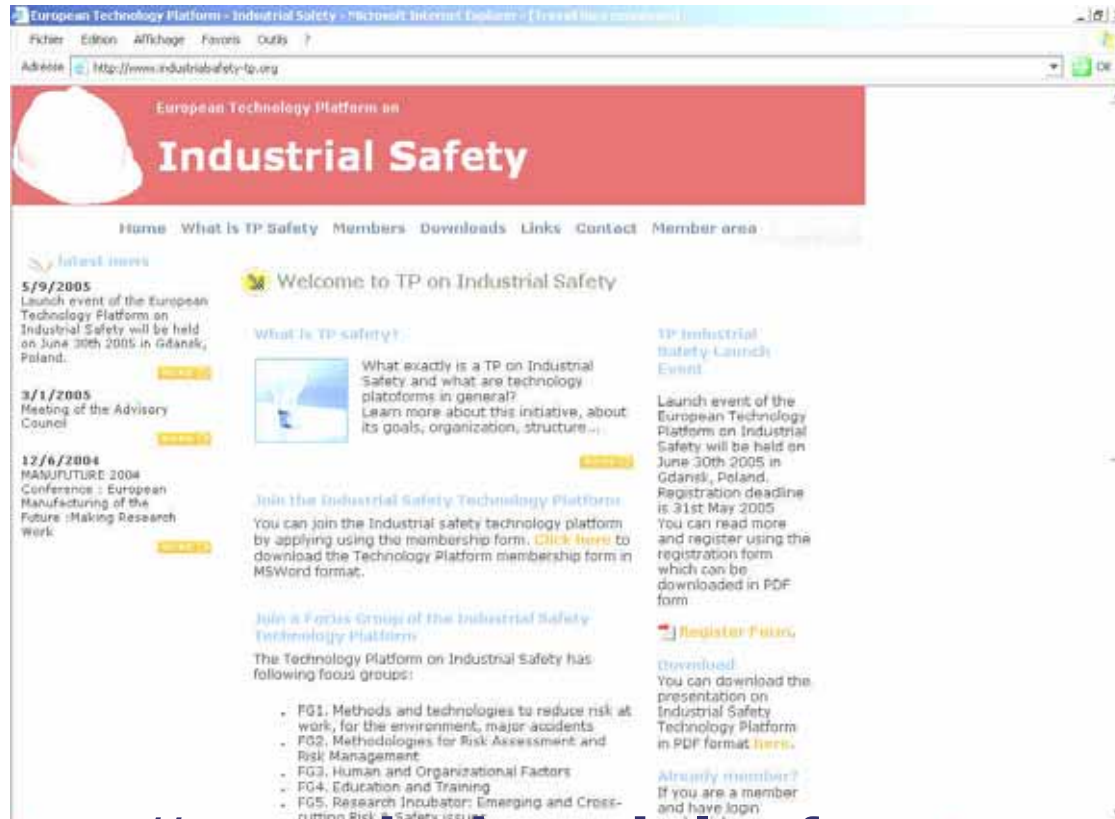
Where to work together ?

- 3. Transformation of the construction sector :
 - 3.1. A New Knowledge-Based Construction Process**
 - 3.2. ICT and Automation**
 - 'Value' assessment of built environment :
functionality, safety, security
 - 3.3. High Added-value Construction Materials**
 - 3.4. Attractive Workplaces (FA Quality of Life)**
 - Re-engineering construction (H&S issues)
 - Zero-accident target
 - Dangerous occupations transformed through
automation / remote control

Added-value of the collaboration

- Work on safe constructions in :
Process industry, Transport infrastructure, Dams...
- Share experimental facilities





<http://www.industrialsafety-tp.org>

rgowland-epsc@icheme.org.uk

olivier.salvi@ineris.fr

Aleksandar.Jovanovic@sowi.uni-stuttgart.de