



Challenges & Opportunities of Personal Protective Equipment Management

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Personal Protective Equipment Market

Work safety related statistics and Directives

Differences in Norms in EU and India

Areas for improvement

Conclusion



PPE market in India



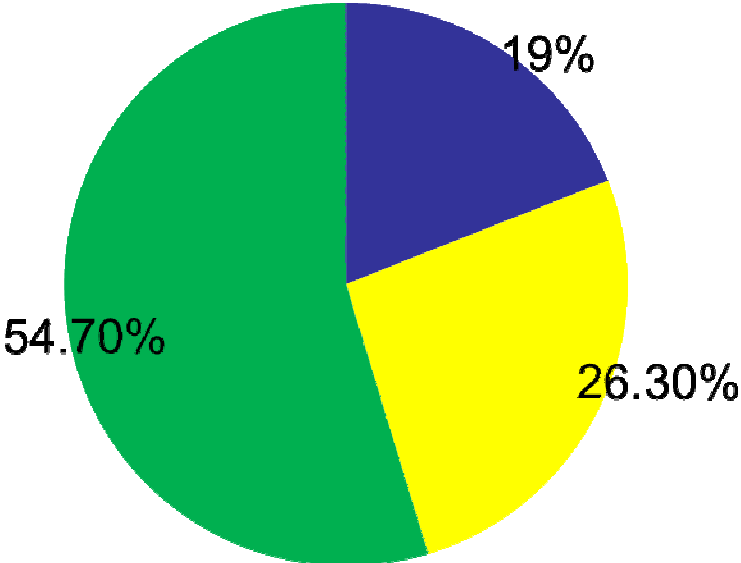
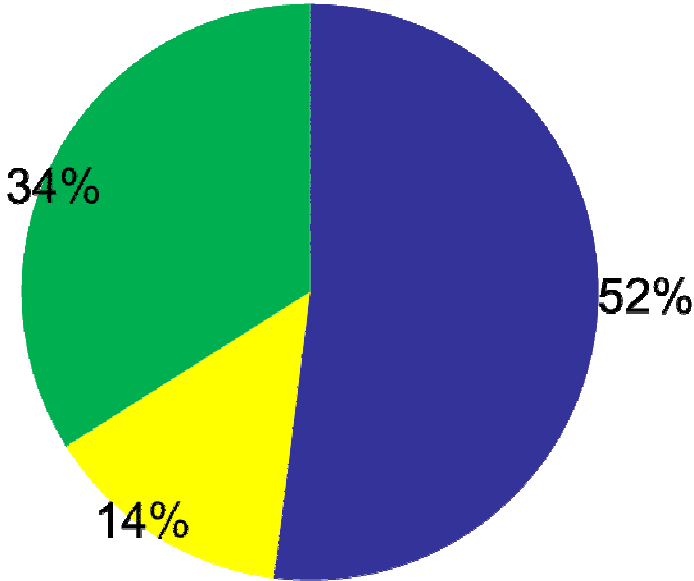
Population	1.25 billion
GDP	US\$ 4.06 trillion
GDP Growth	8.5% p.a.
Labour force	478.3 million
Labour force in Industry	66.96 million
% Requiring PPE	?????



PPE users in India

Labour : 478.3 million

GDP : US\$ 4.06 Trillion



Manufacturing

Think of the contribution per worker in GDP



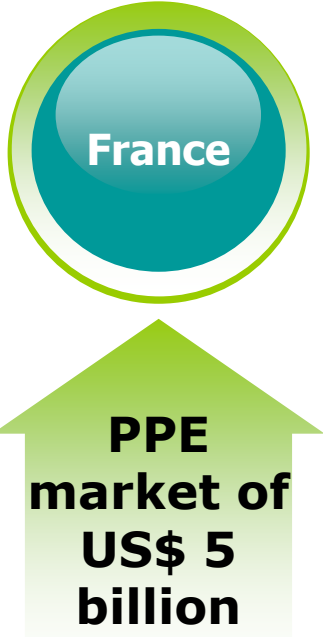
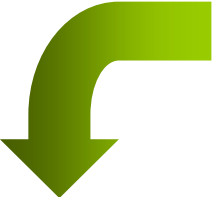
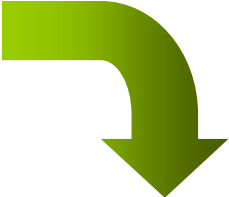
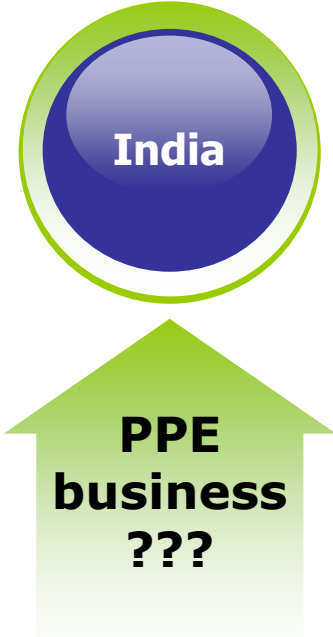


PPE users industry wise in India

	Barometer	Ranking
Power	761 billion kWh	5 th
Oil consumption	2.94 million barrels/day	4 th
International trade	US\$ 550 billion	15 th importer 25 th exporter
Roads	3.3 million km	5 th
Railways	64,000 km	2 nd



Comparison : France/India





Work safety related statistics

Every year :
Total work-related deaths - more than 2.2 million
Of these :
Workplace accidents - about 350,000 deaths
Work related diseases - more than 1.7 million.
Commuting accidents - 158,000 fatal accidents.



Approximately 4% of the world's gross domestic product is lost with the cost of injury, death and disease through absence from work, sickness treatment, disability and survivor benefits.





Work safety related statistics

Hazardous substances – 438,000 deaths
- 10% of all skin cancers

Asbestos – 100,000 deaths

Silicosis – affects tens of millions of workers around the world

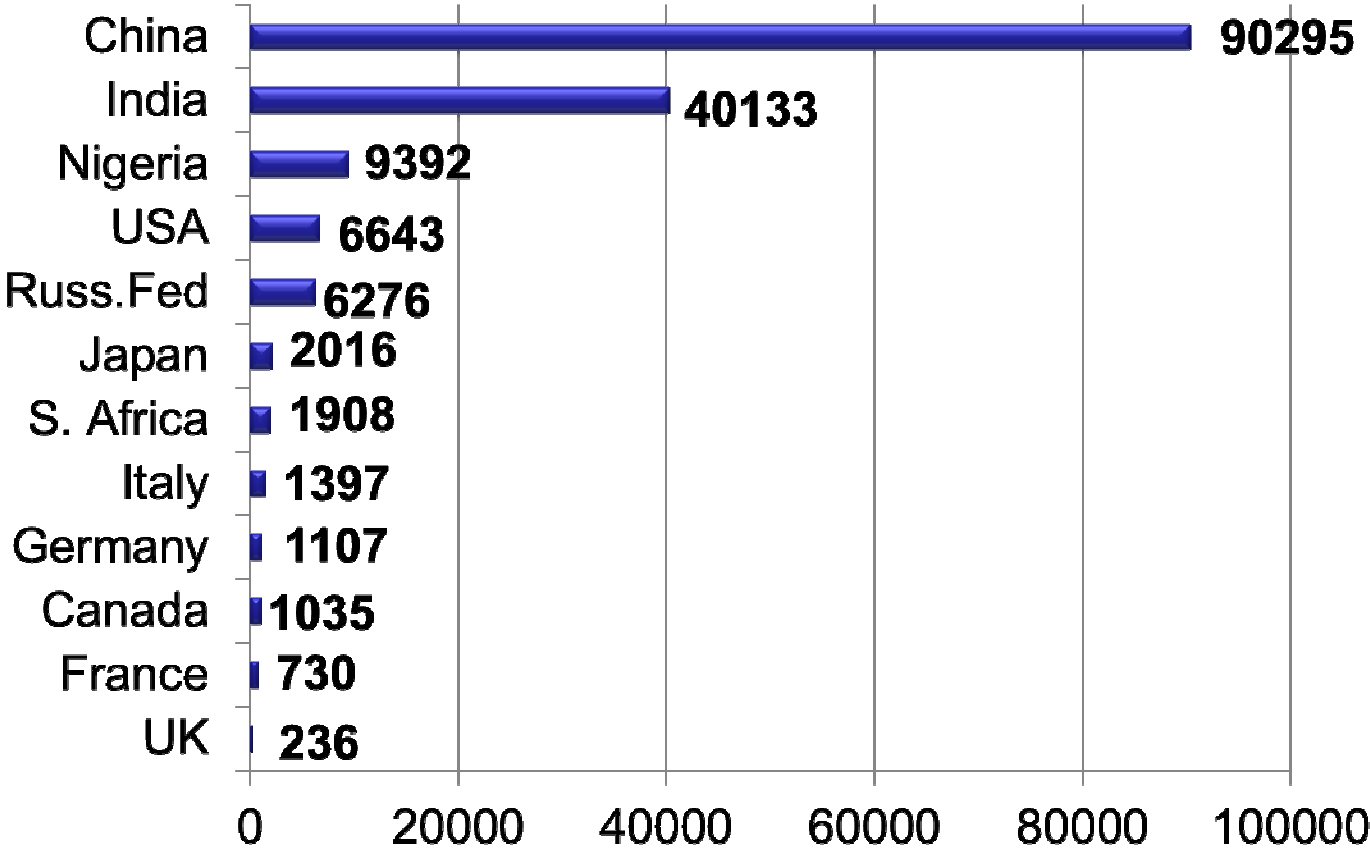


In India, over 50% of slate pencil workers and 36% of stonecutters have silicosis.





Work safety related statistics





Work safety related Directives

The European Framework Directive on Safety and Health at Work (**Directive 89/391 EEC**) adopted in 1989 was a substantial milestone in improving safety and health at work. It guarantees minimum safety and health requirements throughout Europe while Member States are allowed to maintain or establish more stringent measures.



In 2004 the European Commission issued a Communication (COM [2004] 62) on the practical implementation of the provisions of some of the directives, namely 89/391 EEC (framework directive), 89/654 EEC (workplaces), 89/655 EEC (work equipment), **89/656 EEC (personal protective equipment)**, 90/269 EEC (manual handling of loads) and 90/270 EEC (display screen equipment)].





PPE regulation

CE standards



Objectives :

1. **Understand** the importance to wear PPE (Law → Compulsory)
2. **Identify** the differences between the categories of risks



EU Regulation

89/656/CEE Users/Employers Directive

▪ Basis Principles:

- To avoid risks
- To estimate risks that can not be avoided
- To fight against the origin of the risk
- To adapt work to worker
- To follow technological development
- To inform and train workers
- To give priority to collective protection



Directive compulsory for all EU Members



EU Regulation

- **The standard defines 3 categories of PPE according to the level of hazards :**

Categories	I	II	III
Level	Minors	Intermediate	Irreversible/Mortal
User Information	X	X	X
Technical documentation	X	X	X
Self-Certification	X		
CE Type Examination		X	X
Quality Control System			X
Mark	CE	CE	CE

**89/686/CEE
Manufacturers Directive**

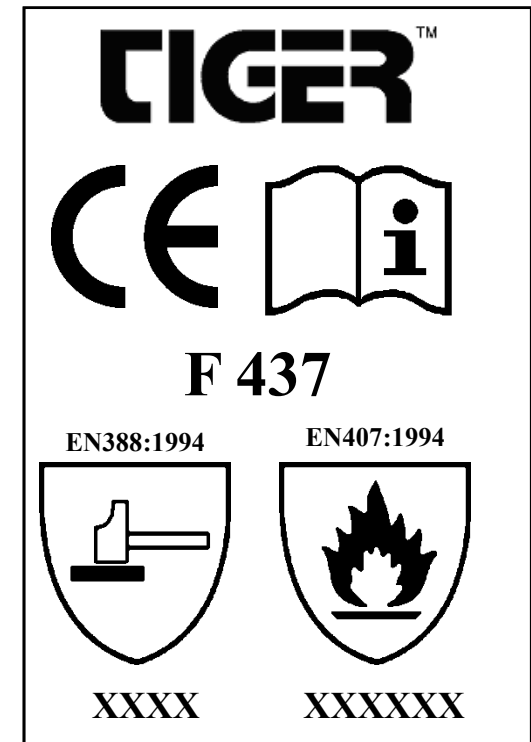
- **General Requirements for PPE:**
 - Design principles (Ergonomics)
 - Innocuousness (No risks for user)
 - Comfort and efficiency
 - Information Supplied





Standardisation : EN 420

- All products need to meet the requirements in directive 89/686/CEE, clearly identified by a standardized label
 - Brand;
 - The logo;
 - The product reference;
 - The size;
 - Information tag indicating that instruction manual is available for the product;
 - The standarization pictogram(s) with their performance ratings



Typical Example



Work safety related Directives

With rapid progress in industrialization comes an added responsibility to safe guard the worker!

Where is India today?

Are Indian workers safe?





Differences in norms in EU and India

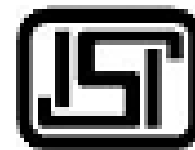
Product	IS Standard	Year	Amended	EN Standard
Gloves	Specification for safety gloves Part 1. Leather and cotton gloves	1973	1982	EN 388: 2003
Helmets	Specification for Industrial Safety Helmets	1984	2002	EN 397: 1995
Safety Harness	Industrial safety belts and harnesses - Specification	1999	2007	EN 361: 1993





Differences in norms in EU and India

Safety Equipment	IS Standard	Number of IS Licenses
Safety Helmets	IS 2925	40
Fall harness	IS 3521	25
Safety Shoes	IS 15298	33
Face mask	IS 9473	6





Modifications in design of the safety helmet that interfere with the protection offered.



Differences in norms in EU and India



Cost of setting up lab for face mask is approx. same as putting up the plant.

Inference : we have only 6 BIS certified manufacturers.

Set up more labs to monitor dust respiratory violations in the industry.



EN 407 & EN 12477 for welding protection – what are corresponding Indian standards for product use?

Why are welding gloves not made mandatory for the job?





Fall safety is often overlooked when it comes to construction
Equipment advances should be monitored and updated.



Areas for improvement



Bad hand tools
Unsafe tools



Bad illumination
Unsafe practices



Conclusion

- **Create an Apex Body on Occupational Safety & Health**
- **Focus on enforcement strategies**
- **Create uniformity in laws**
- **Bring in a general legislation on OSH**
- **Incorporate technological advancements at regular intervals**
- **Provide adequate training to enforcers**





Thank you and have a safe day!

References :

1. www.ilo.org
2. www.cia.gov
3. www.wikipedia.org
4. www.bis.org.in
5. www.guide.eu

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