

Implementation of PSM in Diverse Cultures



Charles A. Soczek
Harry J. Glidden
DuPont Safety Resources

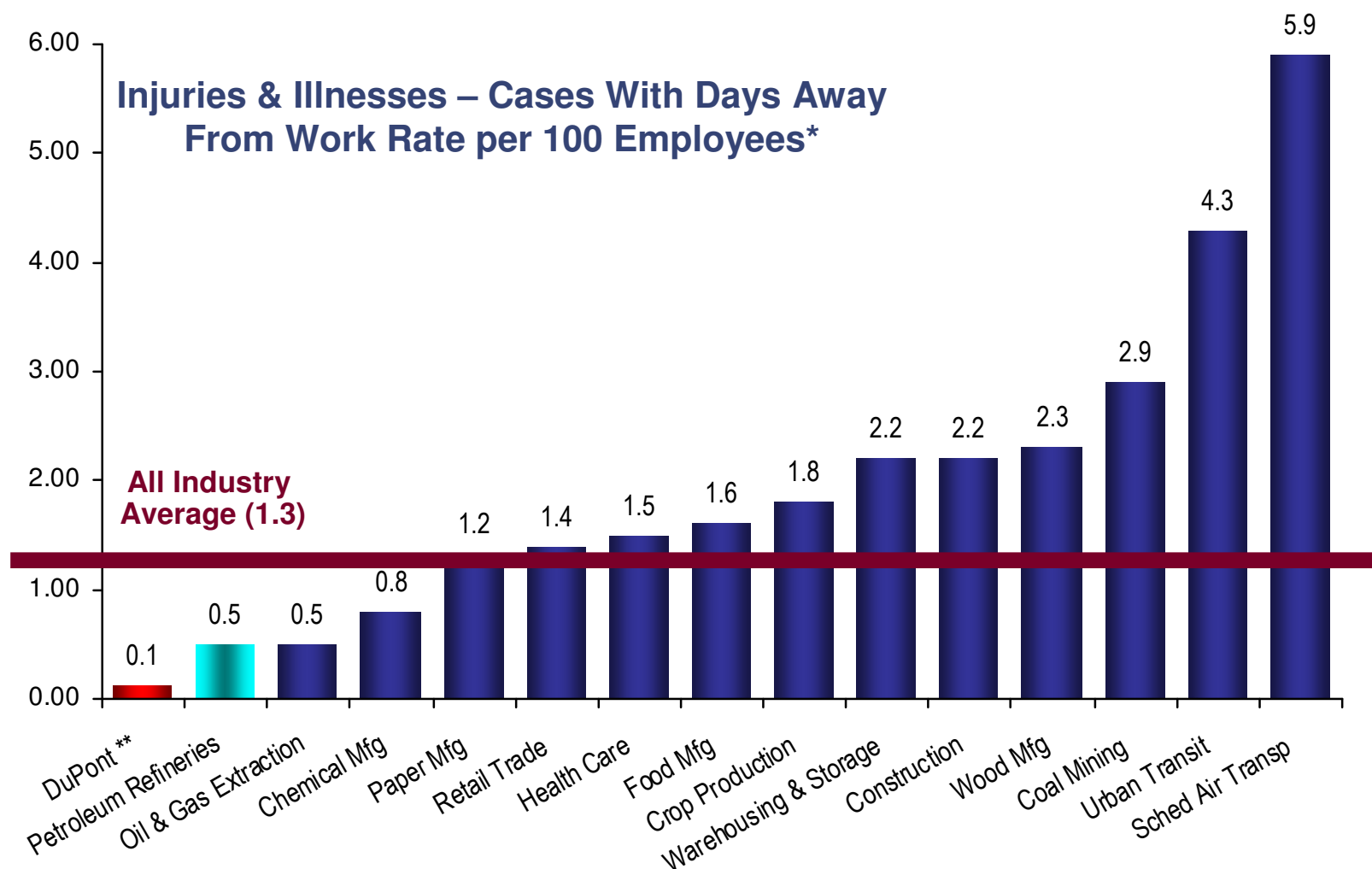


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Agenda

- **Recent PSM Incidents**
- **DuPont PSM Implementation Model**
- **Hofstede Business Cultural Dimensions**
- **Examples of Cultural Challenges and Lessons Learned**

Petroleum and Chemical Industries report best performance



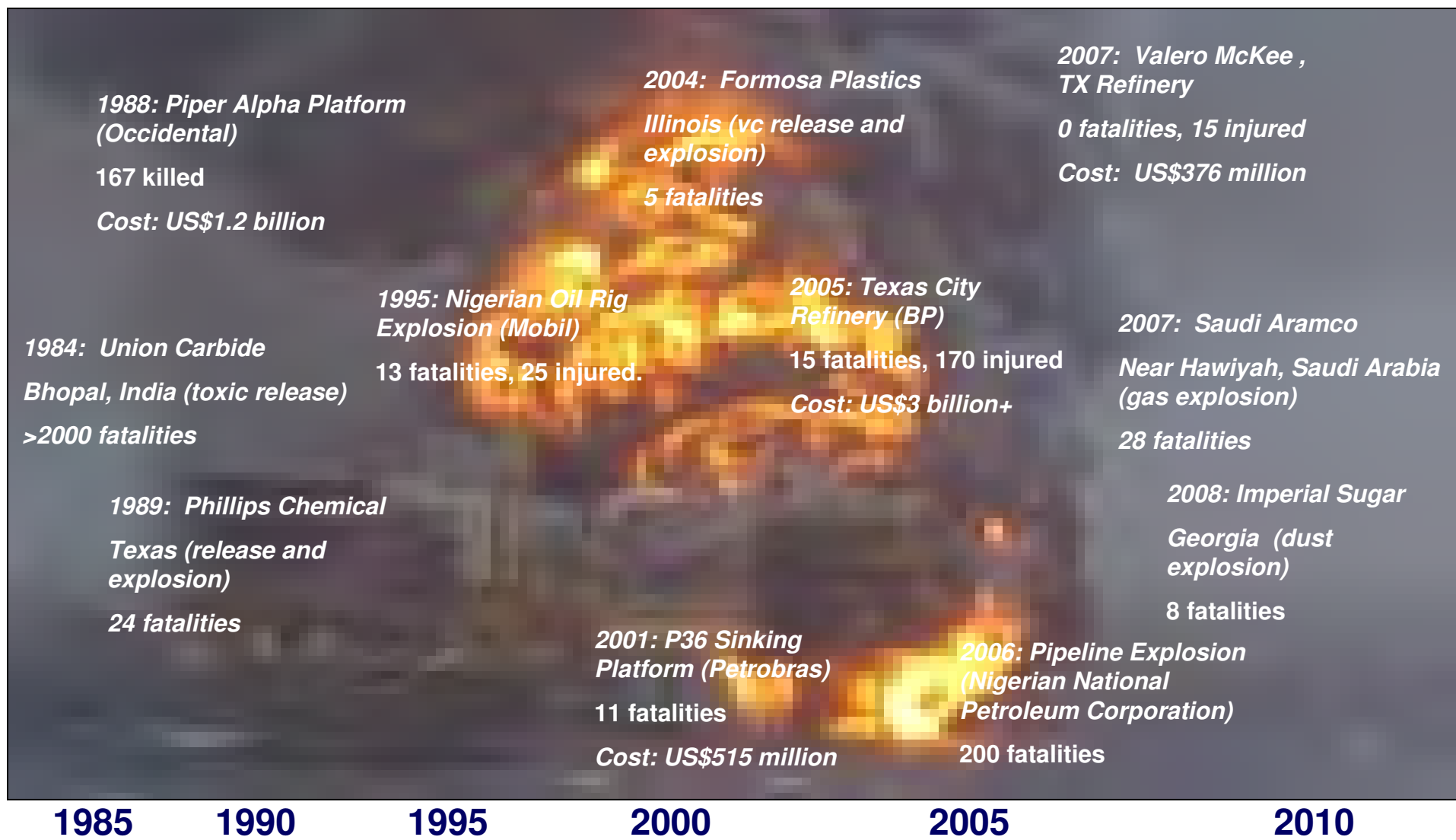
* U.S. Bureau of Labor Statistics, 2006 Data — Injuries & Illnesses

** DuPont 2007 Data

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But catastrophic incidents continue to occur.....



Globalization of DuPont

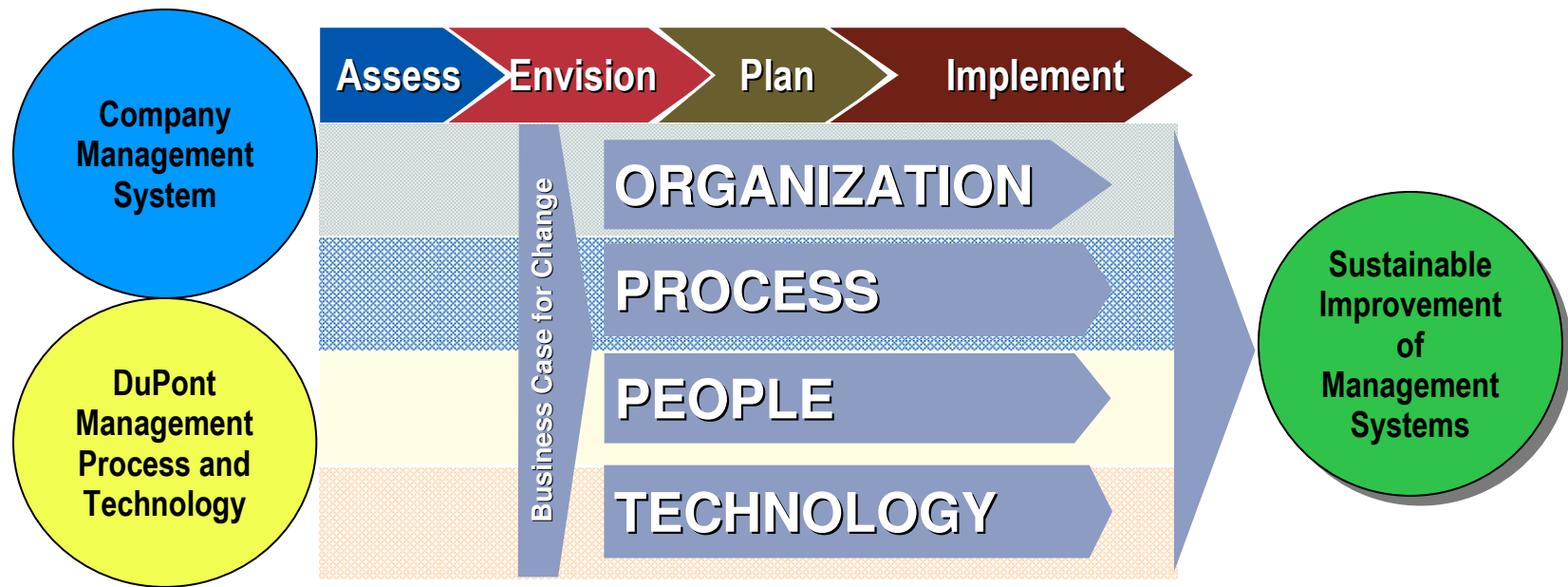
- **1990s – significant globalization of DuPont**
- **Process Safety Management Standard applied to all high hazard operations, worldwide**
- **Sites are responsible for local regulations**
- **Corporate standards, as OSHA regulations, are performance based standards**
- **Faced cultural challenges in implementing PSM**



Management and Elements of PSM



The DuPont Implementation Model



CCPS – Implementation of Process Safety Management

- **Some key elements**

- Preparation, planning, and communications
- Implementation framework
- **Specific attributes workshop**
- Site PSM leadership teams
- PSM element teams
- PSM implementation plan
- Putting the system in place
- Full element implementation plan

Geert Hofstede Business Culture Dimensions

- **Studied business culture in 66 countries**
- **Used five dimensions to describe culture**
 - Power distance index
 - Individualism
 - Masculinity
 - Uncertainty avoidance
 - Long term orientation

Sample Hofstede Ratings

Dimension	Arab Lands	Brazil	China	India	Mexico	USA
Power Distance	high	high	high	high	high	low
Individualism	low	low	low	low	low	high
Uncertainty Avoidance	high	high	low	low	high	low

Impact of Culture on PSM Implementation

- **PSM Networks**
- **PSM Standards and Operating Discipline**
- **Technology**

PSM Networks

- **DuPont makes extensive use of PSM networks**
 - Formal and informal
 - Permanent and temporary
- **Examples of Network activities**
 - Update corporate standards
 - Keep abreast of new technologies
 - Develop and implement training programs

PSM Networks

- **Examples of Networks**
 - PSM
 - PHA
 - Process Technology
 - Mechanical Integrity/Quality Assurance
- **Why network**
 - Leveraging of specialized skills
 - Very cost effective

PSM Networks

- **Network Teams**

- Individuals from site, business, and corporate line organizations and staff functions
- Work for their parent organization and the network
- Are critical to the PSM process in DuPont
- Networks are Global, and participation is expected within the company culture

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PSM Networks

- **In the developing nations, we have found it is difficult for networks to be effective**
 - Managers have difficulty allowing their direct reports to do work not directly for them (High Power distance coupled with low individuality)
 - Direct reports have difficulty in accepting direction from someone other than their manager
- **In many countries, there is less economic incentive to leverage people for cost effectiveness**

Impact of Culture on PSM Implementation

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PSM Standards and Operating Discipline

- **PSM governance**

- Policies and standards
- Implement with strong operating discipline
- Audit to assure compliance

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PSM Standards and Operating Discipline in the US (DuPont Included)

- **Cultural resistance to rules, and following rules that are in place (low power distance and low uncertainty avoidance)**
- **Overcoming this resistance**
 - Develop site specific “PSM How”
 - Implement a robust Operating Discipline program
 - Implement Observations and Audit processes

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PSM Standards and Operating Discipline in the Arab Lands, Brazil, and Mexico

- **Expect to have standards in place**
- **Expect conformance to the standards**

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PSM Standards and Operating Discipline in China and India

- **Expect standards in place (high power distance)**
- **But implementation may be poor and inconsistent (low uncertainty avoidance)**

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PSM Standards and Operating Discipline in the Arab Lands using India Human Resources

- **Conflict??? (high power distance and high uncertainty avoidance versus high power distance and low uncertainty avoidance)**
- **The country sets the standards, and if they are not followed, people are sent home**

Impact of Culture on PSM Implementation

- **PSM Networks**
- **PSM Standards and Operating Discipline**
- **Technology**



DuPont PSM Model



Implementation of PSM Elements in China and India

- **Engineers are**
 - trained
 - skilled
 - highly motivated
 - understand technical aspects of PSM

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Implementation of PSM Elements in China and India

- **Engineers look to management for**
 - Direction, Priority Setting, Resources
- **Management reviews and sign-off at surprisingly high levels**
 - Can lead to poor implementation of PSM elements such as management of change
- **Willingness to accept uncertainty can lead to problems with operating discipline**

Implementation of PSM Globally

- **Cultural issues are real, and must be recognized**
- **Changing culture is a difficult, long process**
- **All cultures face implementation challenges, including the US**
- **Leadership must understand themselves and their organization's cultural challenges to implement PSM, and put systems and processes in place that work within the culture**