

A light gray world map is visible in the background of the slide, showing the continents and oceans.

Progress Report

Sectoral Initiative for Earth-Moving Machines (EMM)

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UNECE WP 6

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Outline of Presentation

- Introduction – EMM Industry
- Sectoral Initiative History
- Current Activities
- Future Challenges and Plans
- Work Site Risk Management and Work Site Surveillance
- Future Plans



Earth Moving Machines

12 Types of Off-Road Machines Used for Excavating, Loading, Transporting, Spreading and Compacting Earth and Other Materials.



Earth Moving Machines

- **Global Industry**
- **Long Term Goal Is to Provide Safe Machines**
- **ISO/TC 127 Develops Safety Standards to Address All Safety Risks and To Promote Global Harmonization**



EMM Sectoral Initiative History

- 2003: Started Model Regulations Project
- 2004: Completed Project to Promote:
 - National Adoption of ISO/TC 127 Standards
 - Regulations Based on Technical Requirements in the ISO/TC 127 Standards
 - Allow Self Declaration of Conformity Certification
- 2008: Updated for Conformity Assessment
 - Accept Need for Third Party Conformity Assessment
 - Define Provisions to Allow Single Testing
 - Long Term Goal Still Self Declaration of Conformity
- 2009: Started Global Declaration/Certificate

2010/2011 Activities Summary

- Presented the EMM Project in China, Korea, Australia, South Africa, Brazil, Chile, and Argentina
- Met with Customer Groups in South Africa, Australia, USA, Europe, Chile, Brazil and Argentina
- Evaluated Results of Project and Determined that Additional Work is Still Needed
 - Customers Have “Zero Injury” Long Term Goal
 - Developing Safe Machines is Not Enough
 - Processes and Guidelines for Safe Use of Machines on the Work Sites Are Needed

**EMM
Safety
Process**

Safety Goal – Zero Injuries

Work Site Surveillance

Work Site Risk Management

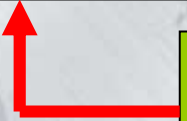
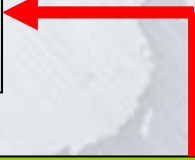
Conformity Assessment

Certification

Safety Regulations

Define Safety Risks

Create ISO Standards



Machine Risk Management

- **The ISO/TC 127 Standards Address All EMM Safety Risks And Provide Performance Criteria To Address Risks**
- **Machine Manufacturers Do Risk Assessment For Intended Machine Use And Verify That Machines Comply With The ISO Safety Standards**
- **The Results Of The Risk Analysis Are Summarized In The Machine Operations Manual**
- **The Machine Operations Manual Can Be Used For The Work Site Risk Assessment For the Earth-Moving Machines**

Work Site Risk Management

- **Specific Risks For The Work Site Also Need To Be Addressed by Machine Users**
 - **Local Conditions: Underground, Overhead, Terrain Conditions, Other Machines or Vehicles**
 - **People on the Work Site: Workers, General Public**
- **Follow Manufacturers Recommendations**
 - **Operator and Maintenance Training**
 - **Machine Maintenance**
 - **Machine Applications Following Intended Use**
 - **Load Ratings**
 - **Slope Capability**
 - **Appropriate Machine Protection: FOPS, Front Guards**
- **Each Work Site Needs Risk Management Plan**

Market and Work Site Surveillance

- **Market Surveillance Verifies Compliance of Machines With Regulations**
- **Even Machines That Are Developed to Comply with Recognized Safety Standards Have To Be Used According To The Manufacturer's Recommendation To Be Safe Machines**
- **Proper Machine Use Should Also Be Addressed by Work Site Surveillance**
- **Work Site Surveillance Can Be Addressed By Machine Users or By Government Health and Safety Agencies**

Work Site Surveillance for EMM

- **Machine Surveillance**
 - **Machines Comply with Safety Regulations**
 - **Machines Have Been Properly Maintained**
- **Work Site Surveillance**
 - **Work Site Safety Plan, With a Safety Manager**
 - **Operators and Workers Are Properly Trained**
 - **Risks on the Work Site Are Addressed**
 - **Underground Electrical Cables, Gas Lines, etc.**
 - **Overhead: Electrical Cables, Structures, etc**
 - **Other Machines, Workers, and Other People**
 - **Work Site Process and Safety Rules Are Known**
- **Machines That Are Developed to Comply With Safety Standards Also Need To Be Used Safely to Be Safe Machines**

EMM Safety Process Summary

- **Achieving Zero Injury Safety Goal Requires**
 - **Machines That Comply with the Standards and Regulations for EMM**
 - **Proper Use of Machines On the Work Site**
 - **Sustainable Balance Between Safety/Economics/Environment**
- **Long Term Goal Is Self Compliance By**
 - **Manufacturers To Build Safe Machines**
 - **Work Site Managers to**
 - **Implement Proper Work Site Risk Management**
 - **Train Operators and Workers**
 - **Maintain Machines**
- **Short Term Goal Allows Third Party Assistance**

Certification of EMM

- **EMM Manufacturers Are Asked To Provide Declaration/Certification for Many Areas**
 - **Standards Compliance**
 - **Regulations Compliance**
 - **Quality Process**
 - **Country Of Origin**
 - **Date Of Manufacturer**
 - **Compliance With Specifications**
 - **Sustainability Information**
- **A Simple Generic Declaration of Conformity Certificate Could Simplify The Certification Process For Manufacturers And Help Machine Users and Customs People Recognize Official Certificates**

Model Global “Declaration of Conformity Certificate” for Earth-moving Machines

Manufacture's Name			
Declaration of Conformity Certificate			
I, the undersigned, _____, hereby certify that the construction equipment specified hereunder			
1. Category			
2. Make			
3. Type			
4. Serial Number			
5. Year of construction			
has been manufactured in conformance with quality requirements			
- Quality Standard:		Certified by:	
- Quality Standard:		Certified by:	
and has been constructed with regard to.			
Directives/Standards	No.	Date	Approval Body
Support Information:			
Certified by: (firm/third party)			
Facility & Country of Origin		Signature	

		Date: _____	

**EMM
Safety
Process**

Safety Goal – Zero Injuries

Work Site Surveillance

Work Site Risk Management

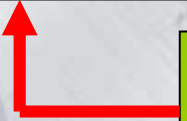
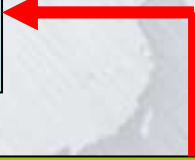
Conformity Assessment

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Future Plans for EMM Project

- **Continue to Provide Training/Assistance For Using the ENECE WP 6 EMM Model Regulation**
 - **Adopting The ISO Standards As National Standards**
 - **Using The Technical Requirements In The ISO/TC 127 Standards For National Regulations**
- **Continue to Evaluate How to Add Work Site Risk Management and Work Site Surveillance to the EMM Model**
- **Continue to Promote Global Harmonization of Standards and Regulations for EMM**
- **Continue to Promote Self Declaration of Conformity By Manufacturers and By Work Site Managers**