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"30 years of OSART programme: Achievements, challenges and future evolution"

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Outline

- OSART History
- OSART achievements
- OSART challenges
- Corporate OSART
- OSART future evolution
- Conclusions

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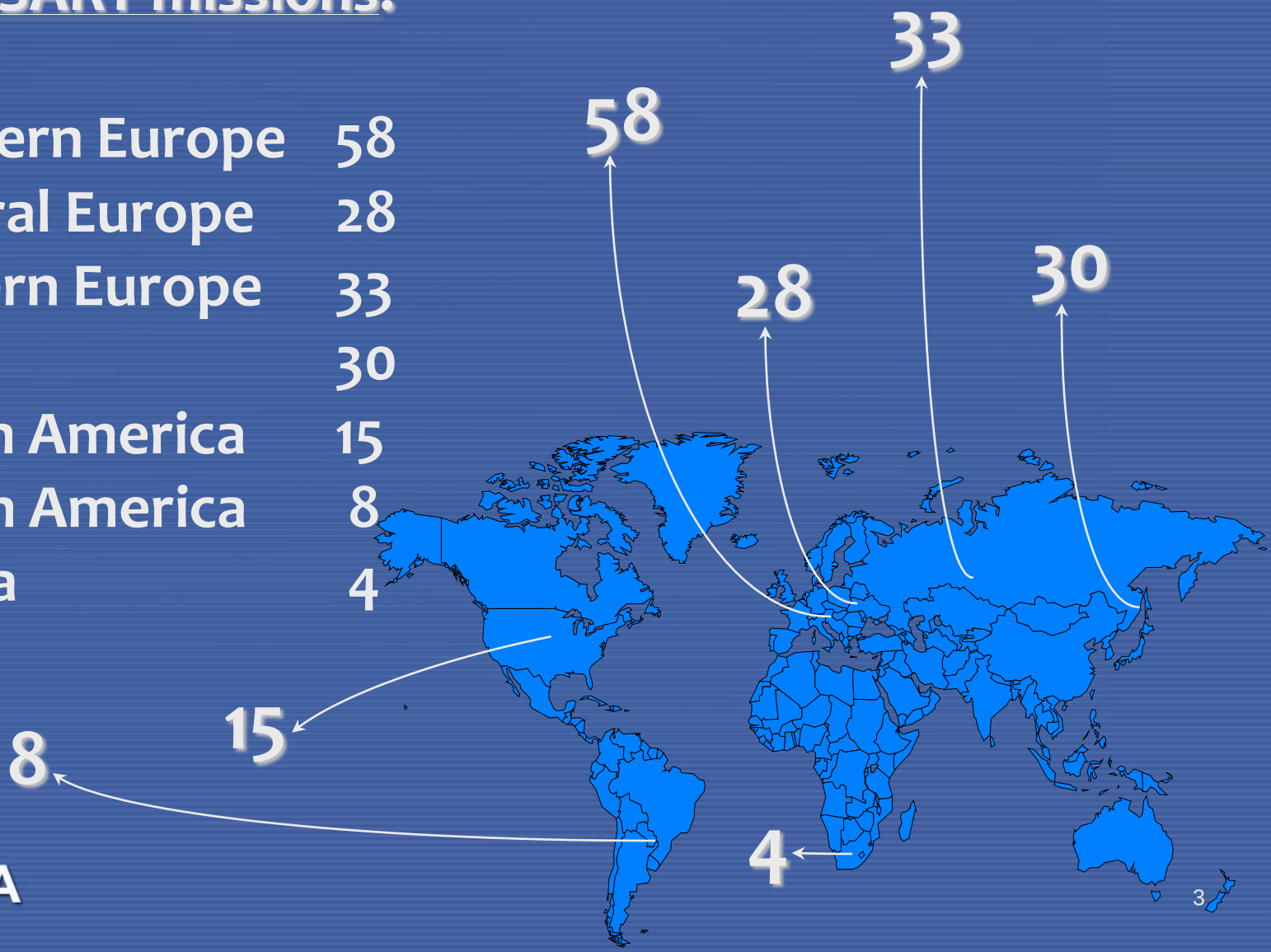
OSART past 30 years

176 OSART missions:

Western Europe	58
Central Europe	28
Eastern Europe	33
Asia	30
North America	15
South America	8
Africa	4



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OSART past 30 years (cont.)

- 1982 First OSART prep. visit
- 1983 First OSART Kori NPP
- 1987 First Follow-up mission Borselle
- 1994 OSART Guideline published
- 1995 OSMIR Database established
- 1998 100th OSART Golfech

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OSART past 30 years (cont.)

- 2004
  - IAEA Safety Standards as a reference - Chashma NPP
  - OE module standard review area - Kashiwazaki Kariwa NPP
- 2005
  - New OSART Guideline
  - OSART Pamphlet
- 2006
  - New Working notes outlines
  - Training CD
- 2008
  - Short report concept

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OSART past 30 years (cont.)

- 2008-2012 New OSART modules
  - Application of PSA
  - Long term Operation

    - 2010 Bohunice, 2012 Mühleberg
  - Safety Culture

    - 2011 Angra 2 and Koeberg
  - Transition to decommissioning

    - 2011 Armenia NPP
  - Severe Accident Management

    - 2011 Koeberg (11 missions)

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OSART past 30 years (cont.)

- 2011 New IAEA Requirements: Commissioning and Operations SSR-2/2
- 2011 Action Plan on Nuclear Safety
- 2012 Severe Accident Management standard area
- 2012 Pilot missions Loviisa and Dukovany NPP-
- 2012 Regional OSART workshops Karlsruhe and Moscow
- 2012 OSART Corporate guideline developed
- 2012 Superior Achievement Team Award
- 2013 Revision of OSART Guidelines initiated

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Corporate OSART mission

Reviews those centralized functions of the corporate organization of a utility with multiple nuclear plant sites which affect operational safety.

Areas included are:

- corporate management
- independent nuclear oversight
- corporate support to provide human resources
- communication
- corporate support in technical functions

e.g. Operating experience, Chemistry, Fuel management, Technical support, Maintenance, Procurement etc. (depending on the functions of the corporate organization)

1st OSART Corporate CEZ Czech republic September 2013

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Top customers of OSART mission

Country (number of operating NPPs)	Numbers of OSART missions hosted
France (19)	24
Ukraine (4)	14
China (6)	11
Czech Republic (2)	10
Brazil (1)	7
Bulgaria (1)	7
Russia (10)	7
Sweden (3)	7
USA (63)	7

OSART achievements

Technical meetings:

Evaluation of Effectiveness of Operational Safety Review Services and their future Evolution - 2003, 2007, 2011, 2013

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Technical meeting 2003: Chairman statement

"The advisory group recognized that the OSART service has helped many countries improve the operational safety of their nuclear power plants and promote transparency in their regulatory and utility organizations".

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Technical meeting 2007: Chairman statement

"OSART has gradually evolved over the past 25 years into a very powerful assist service for nuclear power plants. It ensures compliance with the IAEA Safety Standards and is also helpful while preparing Country Reports for the Review Meetings of the Contracting Parties to the Convention on Nuclear Safety (CNS)".

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Technical meeting 2011: Chairman statement

"OSART missions and Follow-up missions are viewed as an extremely important contributor to operational nuclear safety".

"The OSMIR database is considered a very useful source of information".

"The coordinating role of the International Atomic Energy Agency is important".

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Technical meeting 2013: Chairman statement

"During the past 30 years has the service become mature and accepted as a very powerful and effective tool to enhance safety by most member states".

"Presentations have proved that member states highly appreciate the OSART service and take benefit from the result. An OSART is not a burden but an opportunity to improve".

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OSART achievements

- OSART missions in France every year
- OSART missions in USA every three years
- OSART mission in Russian Federation every three years, changed to every two years
- 1st OSART mission in India 2012
- OSARTs in all Swedish NPPs 2008-2010
- Pre - OSART missions in China
- OSARTs and expert missions in all Ukrainian NPPs 2003-2009

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OSART achievements

- Systematic use of the IAEA SS since 2004
- OSART Corporate
- OSART optional areas:
  - Commissioning
  - Safety culture
  - Long term operation
  - Transition from operation to decommissioning
- OSMIR database
- Interactive training for OSART reviewers
- OSART seminars during preparatory visit

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OSART achievements

- OSS/OSART Quality management system
- Very good plant's results during OSART FU
- OSART mission highlights every three years
- Severe accident management included as standard review area since August 2011
- Internal OSART self assessment process
- 15 cost free experts since 2002 from Japan, USA, Switzerland, Italy, Republic of Korea, China, Czech Republic, Slovakia

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OSART Experience – Sweden workshop

The OSART had major positive effects:

- The activities before, during and after the review united the organisation on common goals.
- Result was accepted by management and staff which facilitated the remedy of the issues.
- The result of the follow-up was a strong encouragement.

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OSART Experience – Sweden workshop

- The benefit of independent reviews was evident.
- An outcome of the follow-up was the revocation of the “Special supervision” imposed by the regulator.

OSART Experience – Sweden workshop

OSART and WANO Peer reviews are complementary.

Both are needed.

Forsmark welcomes future OSART missions!

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OSART challenges

- Development of new OSART guideline and WNO
- Revision of Operational safety standards
- Improvement of the OSART methodology
- Implementation of the IAEA Nuclear safety action plan
- WANO Peer review programme coordination

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Future OSART missions 2014

- Clinton, USA 11-28 August
- Borssele, Netherlands 1–18 September
- Flamanville, France 6–23 October
- Paks, Hungary 27 Oct.-13 Nov.
- Kola, Russia 11–27 November
- EDF Corporate 24 Nov.-9 Dec.
- Olkiluoto 3, Finland postponed to 2015
- Taishan, China postponed to 2015
- Bushehr, Iran postponed to 2016

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Future OSART missions 2015

- Dampierre, France — 4th Quarter
- Angra 3, Brazil — April 2015 ?
- Novovoronezh 5, Russia — 3rd Quarter
- Seizwell B, UK — 2nd Quarter
- Chashma1, Pakistan — 23 Nov-10 Dec

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Future OSART missions 2016-2023

- Flamanville 3, France 2016
- Cerna Voda, Romania 2016
- Chashma 2, Pakistan 2016
- Leningrad, Russia 2017
- Barakah, UAE 2017
- Krsko, Slovenia 2017
- Kalinin, Russia 2019
- Beloyarsk, Russia 2021
- Novovoronezh II, Russia 2023

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OSART future

- Continuous improvement
  - Quality
  - Effectiveness
  - Credibility
- New modules (Corporate, OSART during construction)
- New OSART guideline
- Training of OSART reviewers
- Public - media meetings and press conferences
- Turn - over to new IAEA staff 2013-14

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OSART future

- Use more directed and structured self assessment by the plant
- Use new IAEA Safety Requirements as basic criteria to define the scope of the review
- Use Safety Guides as criteria to define depth of the review
- Gap analyses

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OSART future

- Advantages of new OSART
  - Clear criteria and focus to safety
  - Involvement of the NPP to structured self-assessment and improvements before the mission
  - Simplified OSART report
  - Possible shorter OSART mission
  - Clear status of the plant regarding the IAEA Requirements

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New methodology current and future steps

- Conducted limited scale (OPS, TQ) pilot mission in Loviisa and Dukovany NPP
- Incorporated feedback
- WNO for each overarching requirement using SSR-2/2 and Safety Guides under development
- Conduct full scale pilot mission
- Incorporate feedback and develop guideline

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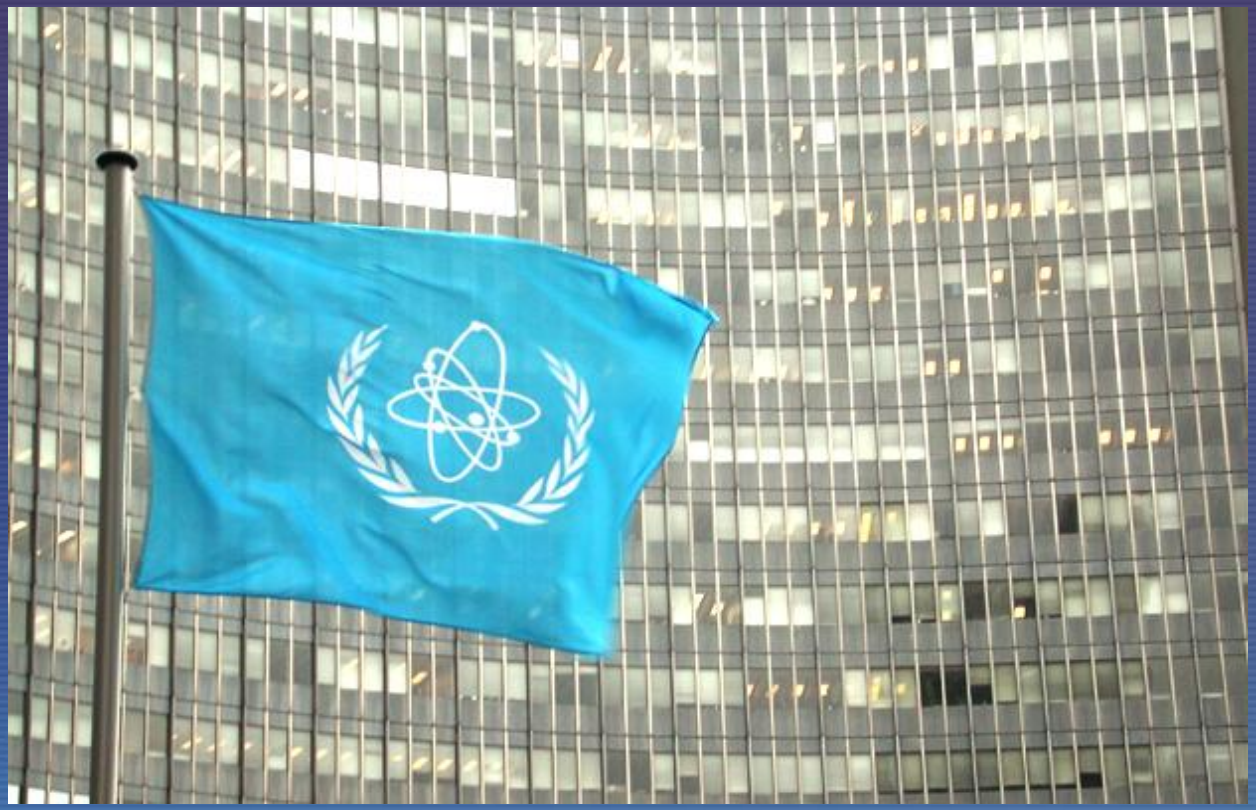
Conclusions

- OSART is the oldest world-wide peer review service
- OSART is recognised and recommended for use by
  - the General Conference
  - the Review Meeting of the Convention on Nuclear Safety
  - the Ministerial Conference of 2011
- OSART reports become publicly available
- OSART will continue to be an excellent IAEA service
- OSART must be driven from the heart of TLs



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