Agenda

1. BASF – At a Glance
2. Process Hazard Assessment – Why and how?
3. Stature® – our global IT Tool, Training and Resources
4. Results and Experience after 5 Years
BASF worldwide: sites

Regional centers
Selected sites
Verbund sites
Planned Verbund site
Selected research and development sites

Freeport
Geismar
Florham Park
Ludwigshafen
Antwerp
São Paulo
Kuantan
Nanjing
Hong Kong
Zhanjiang
Organization of the BASF Group

- Combined into six **segments**, 11 **divisions** bear operational responsibility.

- The **regional and country divisions** contribute to the local development of BASF’s business and help to leverage market potential.

- Together with our divisions, three global **research divisions** safeguard our innovative capacity and competitiveness.

- The **Corporate Center** units support the Board of Executive Directors in steering the company as a whole.

- Four **global service units** offer services for individual sites, globally for the divisions or other units of the BASF Group.
Employees

BASF Group employees by region
(Total: 117,628, thereof 25.1% women, as of December 31, 2019)

North America: 19,355 (16.5%)  
74.3% 25.7%

Europe¹: 72,153 (61.3%)  
75.7% 24.3%

South America, Africa, Middle East: 7,486 (6.4%)  
70.7% 29.3%

Asia Pacific: 18,634 (15.8%)  
74.0% 26.0%

¹ Germany: 54,028 (45.9 %), thereof women: 23.7%
BASF SE: 34,896 (29.7%), thereof women: 21.5%
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By three methods we may learn wisdom:

First, by reflection, which is noblest;

Second, by imitation, which is easiest;

and third by experience, which is the bitterest.

Confucius
Fundamentals for Safe Operations
Layers within the framework of Process Safety

Global Process Safety Concept
- For core technologies
- Summary of related hazards, corresponding risk evaluation and recommended countermeasures

Plant Safety Concept
- For each plant on a conceptual level
- SHE Review Process with all process-related hazards, risks and appropriate safeguards

Implementation Check (Clean Sheet Review):
- For all plants on a detailed level
- Identify based on P & IDs (Piping and Instrumentation Diagrams) appropriate risk mitigation measures and their effectiveness
- Method depends on hazard potential and local regulatory status
Hazard Review Lifecycle

- Clean Sheet Review
- SHE Review Transfer
- SHE Review Update
- Plant Safety Concept
- Review Implementation Check
- Action Tracking

Projects

Step 0/1

Step 2/3

Step 4

Stature® for

- Projects (Step 0 - 4)
- Existing Plants, MOC, revalidation und “clean sheets”
- Existing Plants → initial load of documents

MOC: Management of Change

Vision: Making a study a living document in Stature®
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Stature® in BASF

What is it about?
- Stature® is a global web-based platform for documenting Hazard Assessments for new projects and existing plants
- Stature® is a mandatory tool since 2015
- Stature® facilitates tracking and management of Action Items

Who are the user groups?
- Plant Management / Operations
- Process Safety and Global Auditors
- Engineering
- Global Technology Teams
- More than 8 000 users globally
Business value of a Centralized Risk Management Solution
Expected benefits at launch in 2015

**Employees**
- One system
- Clear processes and responsibilities

**Plants**
- Transparency
- Status studies
- Status open points
- Compare similar plants

**IT-Tool**
- Resource planning
- Prioritization
- Analysis above the plant level

**Documentation**
- Less time for SHE review
- Documentation available global
E-learning modules are accessible via BASF intranet to all employees
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Data Visualization - From Stature® to Power BI for Analytics

Every Stature® user can run a report
Usability – Enhance user experience with new user group

- Providing visualization of data analyses with Power BI
  - Folder structure and completeness
  - Adapt reports to needs
  - Improve transparency on completion of PSC or Implementation Check (CSR)

- Purpose: Allow monitoring of data quality

- Leading indicator for reporting
Big Data – Unleash the full power of Stature®

- Facilitate data mining
  - Include Status of Action Items from safety reviews and transfer existing AI outside of Stature
  - Interpret the Stature® data, prioritize and devise improvement plan
  - Increase data quality

- Purpose: Allow data mining to identify development focus

- Leading indicator for reporting
Business value of a Centralized Risk Management Solution
Experience after 5 years

Employees
- Training of IT and methodology
- Differences in processing (consistency)

Plants
- Transparency
- Status studies
- Status open points and prioritization
- Critical risks visible
- Compare similar plants

IT-Tool
- Resource planning
- Information for management
- Visualization of reports, leading indicator
- Automatized reporting

Documentation
- Less time for SHE review
- Documentation available global
- Global PSC as blueprint for new plants
**Stature® Roadmap 2020**

**SWOT Analysis**

**S**

**Strengths**
- One global system for Process Safety
- Full transparency of Plant Safety Concepts and Implementation Checks
- Action Tracker with implementation of old relevant Action Items
- > 8000 User

**W**

**Weaknesses**
- Training for end-user needed
- Train the trainer concept needs support of EHS Experts
- Users do not follow the rules
- Users behavior affect data quality → follow up ground rules, e. g. use of modifier

**O**

**Opportunities**
- One global reporting system for OD*
- Global prioritization of Action Items
- Improve data quality with ODs.
- Enhancement: Implementation of SIF-specification and clear MSD* description

**T**

**Threats**
- Release 4.8 and template change done
- Roll out of E+I project

*OD: Operating division, MSD: Mechanical safety device*