



# **Commitment to sustainable development – Sustainability (HSE initiatives) and Corporate Social Responsibility**

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**LANXESS**  
Energizing Chemistry

# Agenda

**Introduction to LANXESS**



**Sustainability**



**Health and Safety**



**Corporate Social Responsibility (CSR)**



# Agenda

## Introduction to LANXESS

- Global presence
- LANXESS in India
- Production sites

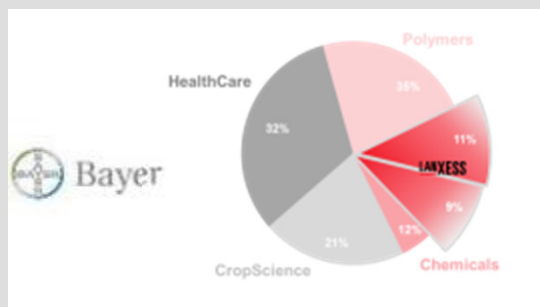


## Sustainability

## Health and Safety

## Corporate Social Responsibility (CSR)

# LANXESS – a leading specialty chemicals company with global leadership in synthetic rubber



## Young company with strong roots

- More than 100 years of history in India
- Consolidation of parts of previous Bayer polymers and chemicals businesses into new entity in 2004
- Inception of LANXESS as an independent company in February 2004

# LANXESS

## Background

- Name: combination of French word “lancer” (to set in motion) and “success”
- Manufactures and markets advanced rubber polymers, plastics, intermediates and specialty chemicals
- Listed on Frankfurt Stock Exchange and DAX in Germany



## Global success story

- 52 production sites worldwide (2 in India)\*
- ~17,500 employees\* in 31 countries (967 in India\*\*)
- Global sales of €9.1 bn (2012)
- EBITDA\*\*\* of €1.225 bn (2012)

\*As of September, 2013; \*\*As on August 31, 2013; \*\*\*pre exceptionals

# LANXESS

# Business portfolio – three strong business segments – 14 business units

## Performance polymers



**Globally No. 1-3**

- Butyl Rubber
- Performance Butadiene Rubbers
- Keltan Elastomers
- High Performance Elastomers
- High Performance Materials

## Advanced intermediates



**Europe No. 1-2**

- Advanced Industrial Intermediates
- Saltigo

## Performance chemicals

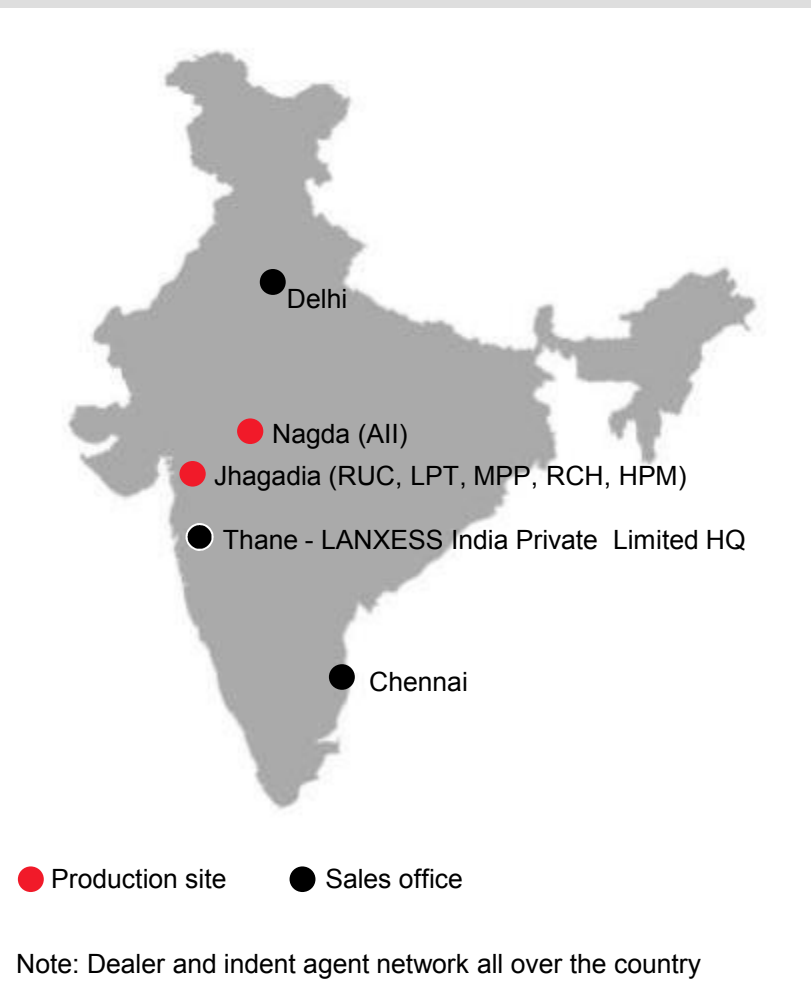


**No. 1-4 in niches**

- Material Protection Products
- Inorganic Pigments
- Functional Chemicals
- Leather
- Rhein Chemie
- Rubber Chemicals
- Liquid Purification Technologies

**Leading supplier of synthetic rubber, high-tech plastics, specialty chemicals and advanced industrial intermediates in India and globally**

# LANXESS has over 100 years of history in India and is committed to this market



- LANXESS established in India since February 20, 2004 with around INR 1,300 crore investment in the last few years
- A leading supplier of specialty chemicals and advanced polymers to customers in India and global markets
- INR 1,672 crore sales in FY 2012
- Organizational set-up
  - All the 14 LANXESS Business Units are represented locally
  - 2 production sites: domestic sales and exports
  - 3 sales offices plus country-wide dealer and indent agent network
  - 966 employees\*

\*As of July 31, 2013

**LANXESS**

# LANXESS India site at Nagda – production facility for advanced intermediates segment



**Facilities continuously modernized since acquisition**

## Introduction

- Located at Birlagram, about 55km from Ujjain spanning over 20 hectares
- Substantial investments in sustainability since acquisition of the site assets in 2009\*
- The largest contributor to the India business - Serving wide range of domestic and export customers with more than 50% exports
- Catering to various application segments like agrochemicals, pharmaceuticals, dyestuff, flavors and fragrances, coatings

\*Acquisition of chemical businesses and production assets belonging to Gwalior Chemical Industries Ltd.

**LANXESS**



# Aerial view of Nagda site





# LANXESS India site at Jhagadia, Gujarat – the first greenfield project of LANXESS globally

## Overview

- In operation since March 2010 in Jhagadia Chemical Park at GIDC\*
- Multi-BU site backed by an investment of over Rs. 500 crore
- Built to world class standards and a key global manufacturing site for LANXESS
- ISO 9001 and ISO 140001 (product and environment norms) certified
- Value engineering carried out before site construction - focus on optimal resource use, minimum environmental impact and safety for all employees



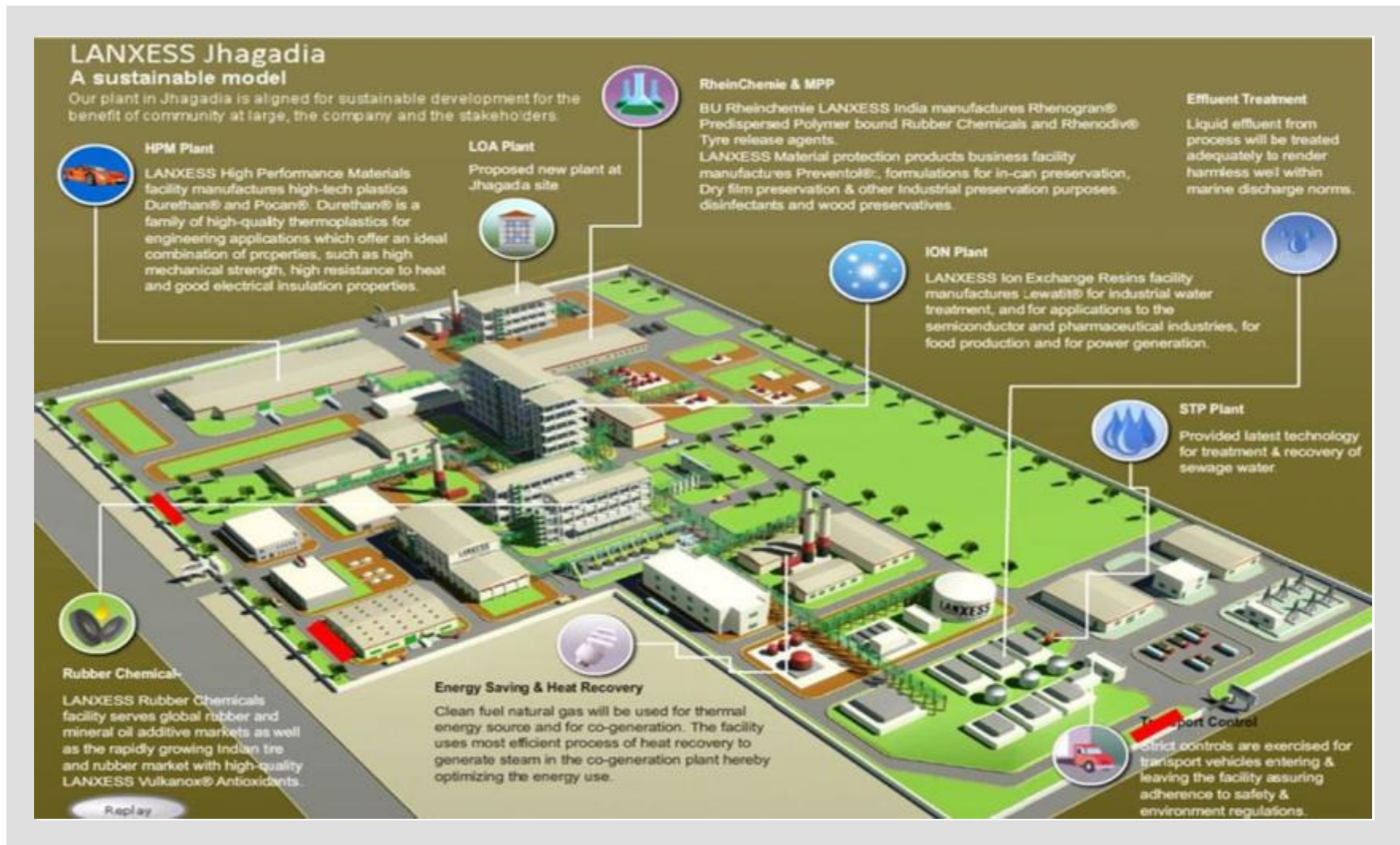
**Admin building and  
ECC**



\*GIDC - Gujarat Industrial Development Corporation

**LANXESS**

# Jhagadia site layout – spread over 18 hectares land area



**LANXESS**

# Agenda

Introduction to LANXESS

## Sustainability

- Global sustainability commitment
- Sustainability initiatives at Nagda site



Health and Safety

Corporate Social Responsibility (CSR)

# Sustainability at LANXESS – integrated part of our business framework



## Overview

- Future success is closely linked to the future of customers, communities and environment thus sustainability is a responsibility shared by all
- Systematic steps taken for sustainable and profitable growth – involves an integrated approach considering ecological, societal as well as economic factors
  - Includes all HSEQ related aspects
  - Continuous improvement of products and processes at all levels
  - Investment in bio-based fuel / raw material
  - CSR for the communities, wherever possible
  - Commitment to global sustainability indices

# Definite global targets – to reduce environmental footprint and improve safety



## Global objectives

- Reduce CO2 emissions by 10% until 2015\*
- Reduce absolute emissions of Volatile Organic Compounds by 30% until 2015\*
- Reduce specific energy consumption by 10% until 2015\*
- Global implementation and certification of energy management system by 2014
- Increase in resource efficiency and analysis of environmental footprint
- Life cycle analyses of relevant products
- Achieve zero man days lost due to injuries at our manufacturing sites

\*: base year 2010



# Nagda site – role model for sustainable development in India and globally

**Waste Water Post Treatment Plant**



**Sewage Water Treatment Plant**



**Effluent Treatment Plant**



**Co-gen (bio-based) Plant**



**Incinerator**



**Occupational Health Center**



# Jhagadia site – setting standards for manufacturing excellence

**Off-gas Incinerator**



**Sewage Treatment Plant**



**Effluent Treatment Plant**



**Co-generation Plant**



**Occupational Health Center**



# Co-Generation plant – optimizing use of natural resources



**Reducing the carbon footprint**

## Overview

- Generates around 3.95 MW Power and 45 TPH Steam using Carbon neutral Biomass Fuel
- Fuelled by Soya, Mustard husks instead of non-renewable resources such as coal
- Saves about 70,000 MT Coal and thus saves about 95,000 tons of CO<sub>2</sub> equivalent emissions per year
- Plant operating at Biomass:Coal :: 90:10 against design of 80:20
- Largest consumer of Biomass in the region benefitting farmers financially.
- Registered for availing the benefit of Renewable Energy Certificates (REC) from May 2013



# Co-generation plant with Solo-NOx model – further optimizing the use of natural resources



**Reducing the carbon footprint**

## Overview

- Power and steam generated for production use, run by clean fuel natural gas, saves emissions of around 31,000 tons of CO<sub>2</sub> per year
- Significant premium paid for Solo-NOx model to reduce nitrogenous gas emissions and recover heat to reduce carbon footprint

# Incinerator – compliance to environmental norms and enabling waste heat recovery



**Reducing  
transportation needs  
to far off sites**

## Overview

- Post acquisition, LANXESS decided to stop old Incinerator and install new, meeting CPCB norms
- Recently constructed and commissioned for safe disposal of distillation residue generated from plant production processes
- Compliance with all necessary CPCB and MPPCB requirements
- Steam generation from Flue Gas Heat Recovery
- Twin Chamber Incinerator with High Residence Time
- Designed with dual scrubbing systems for recovering HCl from flue gas
- Constructed using most modern technology and is comparable to the best in the world
- Investment of nearly INR 16 Crores



# Off-gas Incinerator – compliance to environmental norms and enabling waste heat recovery



**Reducing the VOC impact on the environment**

## Overview

- Off-gas (VOC) from the production units and bulk storage units is collected and incinerated thereby reducing environmental footprint
- Twin chamber incinerator with high residence time
- Constructed using most modern technology and is comparable to the best in the world
- Steam generation through the heat recovered from flue gas, which is then used for production
- Compliance with all necessary CPCB and GPCB norms

# Water resource management – sewage treatment plant at Nagda site



**LANXESS harnessing grey water**

## Overview

- First of its kind in MP used to treat and recycle domestic sewage water from nearby colony
- Capacity of treating 3,000 cum/day of sewage water
- Award received from Indian Chemical Council in 2009 for innovative approach to recycle and harness domestic sewage water for industrial use

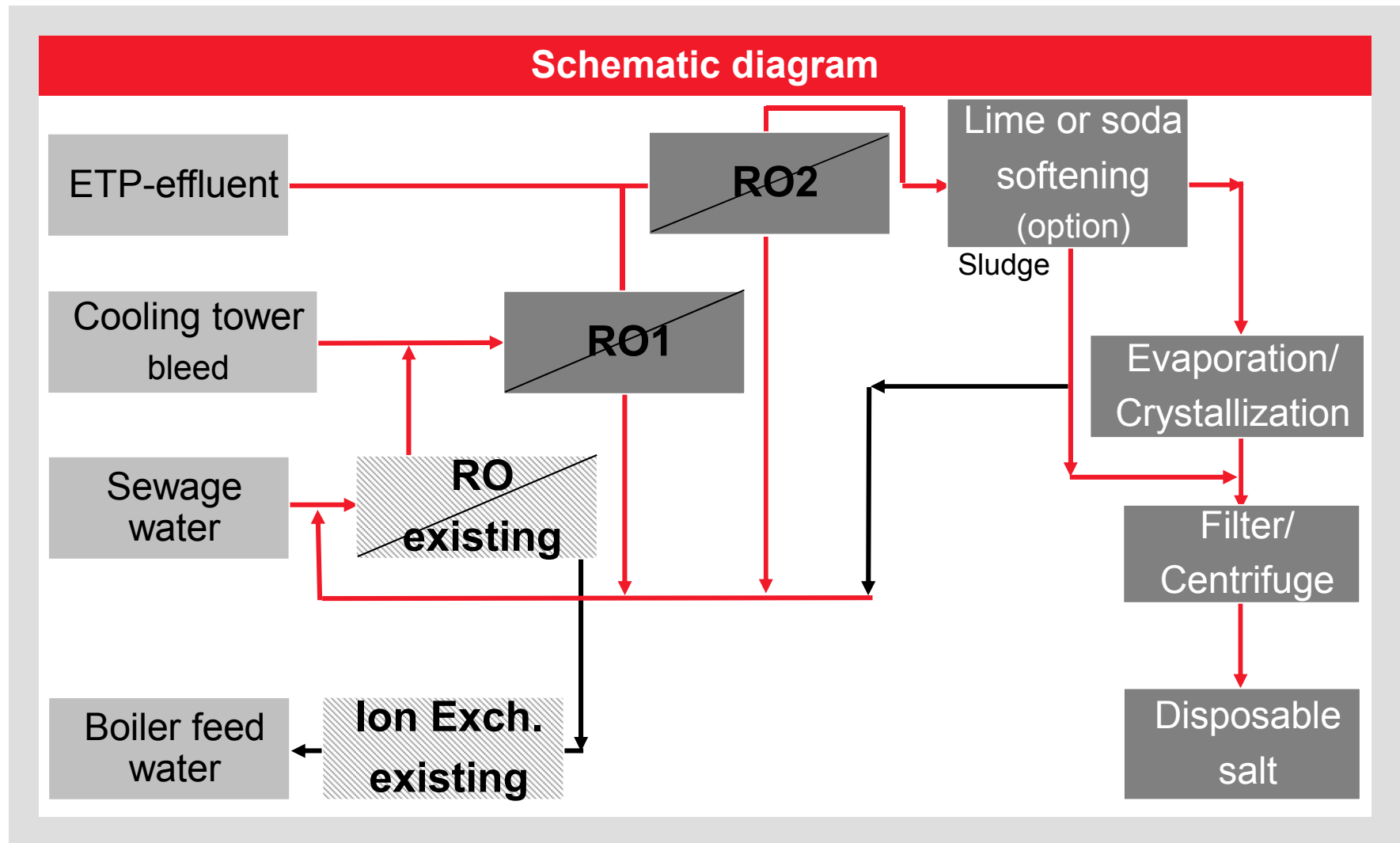
# Forward integration of water management at Nagda – another step towards sustainability

## Drivers for zero liquid discharge (ZLD)

- Reduce environmental footprint – reduce dependence on conventional water sources
  - Prevent contamination of river Chambal, which is primary source of water for villagers downstream
- 
- Decision to study possibility of recycling entire treated waste water at site which resulted in the Waste Water Post Treatment Plant project
  - Development process involved water quality surveys, water composition analysis from different sources and additional measures requirement for water pre-conditioning, which included trials and pilot runs
  - Finally zeroed in on concept involving reverse osmosis process followed by evaporation step

**Second Project to harness Waste Water after STP in which Water Utilization and Conservation efforts maximized with state-of-the-art ZLD concept**

# Forward integration of water management at Nagda site



# Waste water post treatment plant at Nagda – stepping it up with zero liquid discharge concept



**Benchmark for the whole Indian chemical industry**

## Overview

- Treatment of discharge from ETP in a PTRO unit and evaporator plant so that no liquid effluents are discharged from the site at all
- Water recovered is re-used for production processes
- Investment of nearly INR 35 crore



# Sewage treatment plant at Jhagadia site



**Harnessing 'Grey water'**

## Overview

- All domestic effluents from site is collected and treated in the central STP
- Removal of macro size solids and grease in equalization tank
- COD and BOD further reduced by micro-organisms in aeration tank
- Clarification done in a centrifuge, and recovered water is passed through dual media and activated carbon
- Water is recovered and recycled for cooling tower makeup and gardening

# Effluent treatment plant at Jhagadia site – reducing the environmental footprint



**3 stage aerobic process**

## Overview

- Treats waste water from site before being discharged to community ETP at Ankleshwar (NCTL)
- ETP treatment scheme involves collection and transfer of effluents, oil and grease separation, pH adjustment, removal of organics by bio-degradation and final disposal.
- 3 stage aerobic process for efficient BOD and COD reduction
- Online monitoring of TOC (Total Organic Carbon)



## Emphasis on green zone development – around 6,500 saplings planted around Nagda site



# Green zone at Jhagadia – goal of 7,000 trees in and around the site, nearly 3,500 already planted



**World Environment Day  
plantation**



# Agenda

Introduction to LANXESS

Sustainability

## Health and Safety

- Safety culture at LANXESS
- Initiatives undertaken at sites
- Occupational Health Center



Corporate Social Responsibility (CSR)



# LANXESS' integrated safety culture and practice



**LANXESS is rated high on safety globally nevertheless pushing forward to enhance safety**

## Overview

- Safety as core value at LANXESS and not just a function
- Not just a department's responsibility but mandate and priority right from Board of Management to worker at plant
- Senior management conducts audits periodically reinforcing importance through all levels
- Well defined safety standards and protocols even spanning contractors, vendors or any other parties within distribution and supply chain

# Xact – transforming the LANXESS safety culture globally to become even more proactive

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Energizing Chemistry

**Xact**  
Health Safety Environment



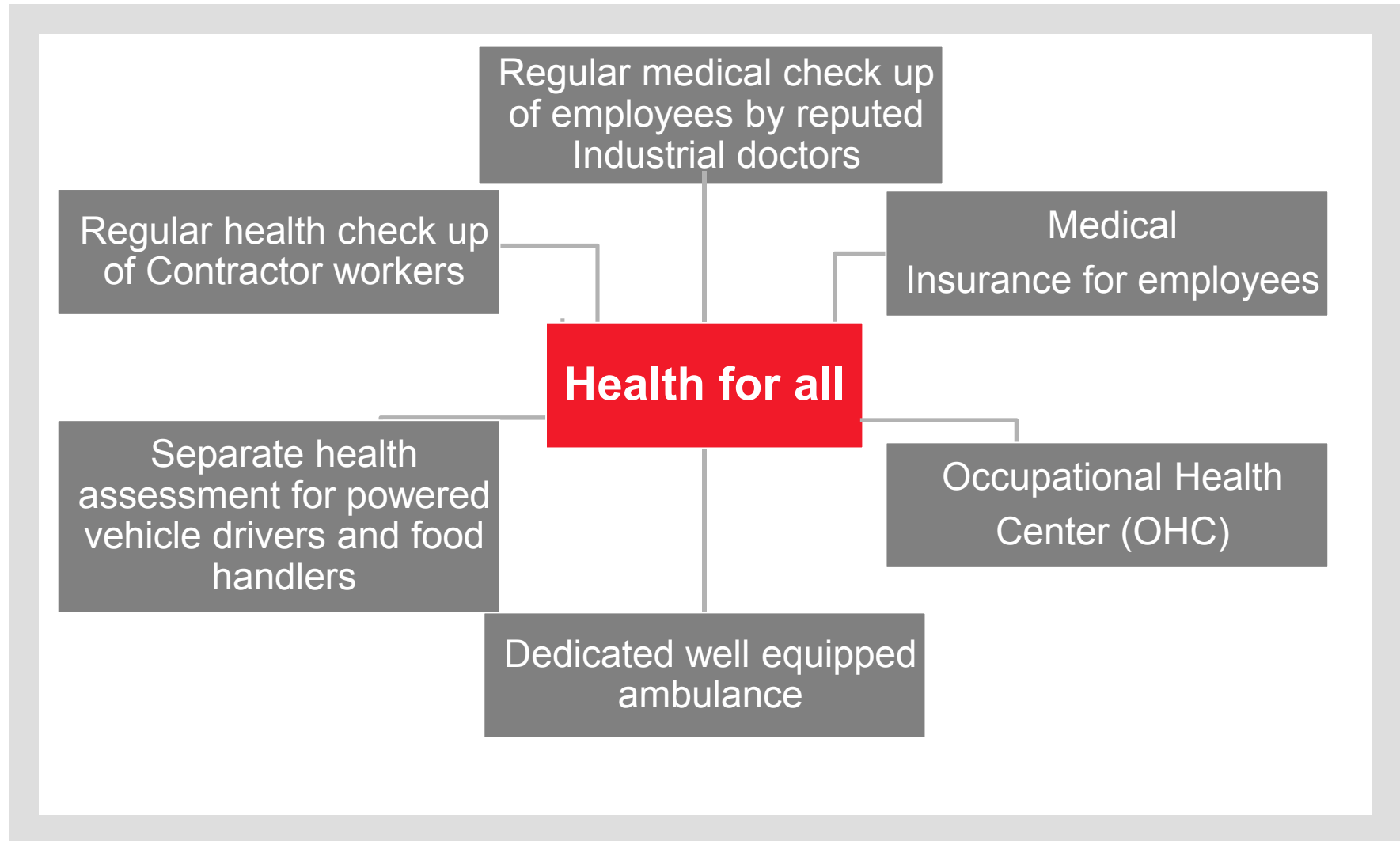
Safety can be leveraged by cultural/behavioural, personnel, facility- & technology-related aspects

## Overview

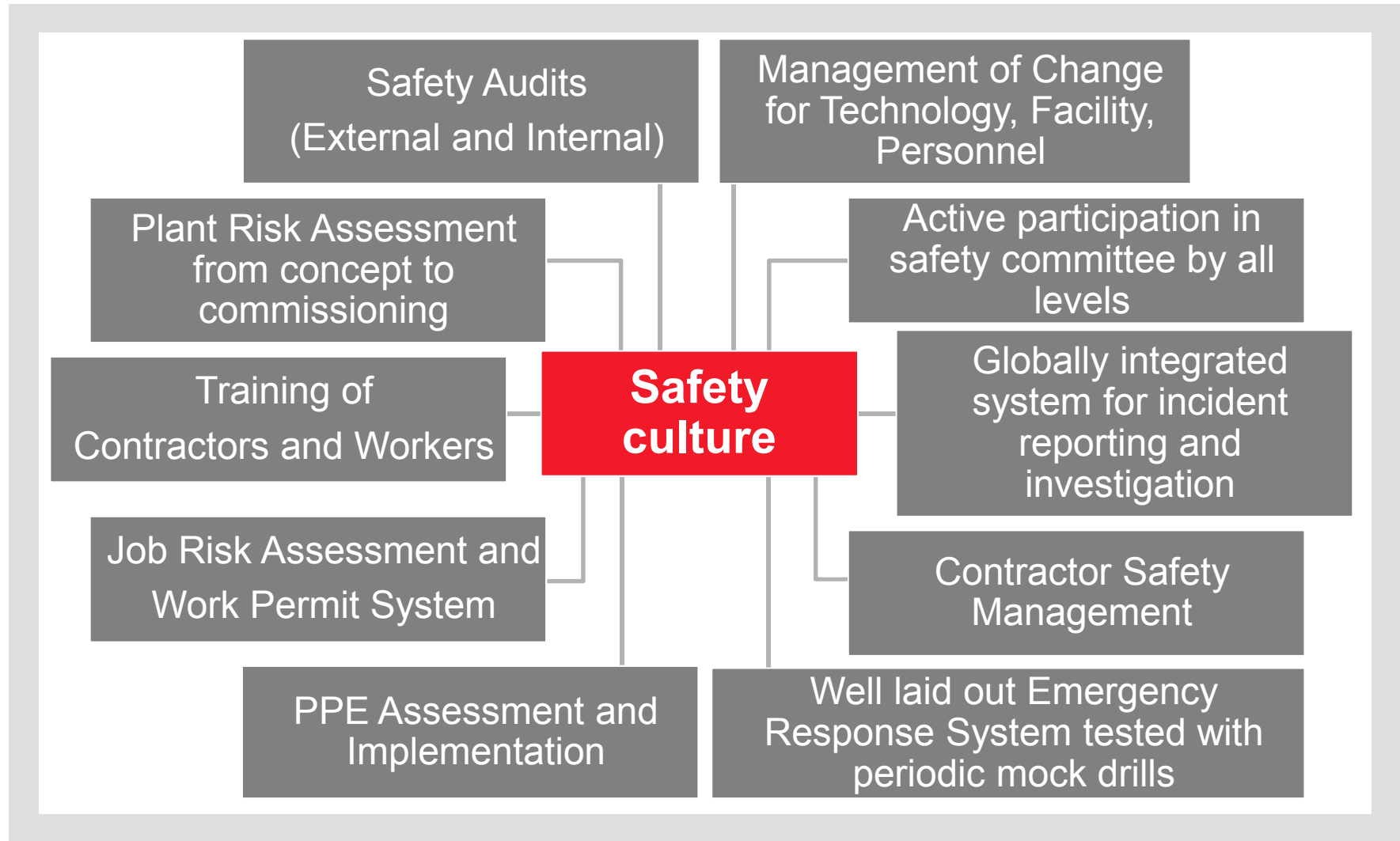
- Unique safety management training programme rolled out at LANXESS locations globally to further underline safety standards
- Directly driven by Board of Management to bring about cultural change in the organization
- Aimed at
  - Increasing safety related awareness and developing comprehensive safety management
  - Enabling systematic identification of risks with appropriate counter measurements
  - Ensuring regular checks by professional safety experts

**LANXESS**

# Health related initiatives at LANXESS sites



# Safety related initiatives at LANXESS sites



# Transport safety initiative undertaken under the aegis of ICC – ‘Nicer Globe’



**Pioneering initiative for road safety**

## Overview

- Collaborative initiative undertaken along with 6 other member companies
- Will increase accountability by the transporter and ensure security for the manufacturer
- Three phases of implementation planned
- Phase 1 rolled out in August 2013 - GPS monitoring of vehicles transporting chemicals through the 'Nicer Globe' platform
- **Participation invited from chemical industry to make this a greater success**



# Emergency services at both the sites



## Overview

- Well-equipped Emergency Communication Center (ECC) with trained personnel, manned 24\*7
- Well-designed fire fighting system with dedicated water reserve
- Auto-water sprinkler system installed for flammable chemical storages and process plant
- State-of-the-art fire tender with dedicated and trained operators
- Well-designed fire water containment system
- Efficacy of these services is checked by periodic mock drill

# Occupational Health Center (OHC) – on standby to cater to all immediate personnel needs



## Overview

- Modern full-fledged facility equipped to handle all medical emergencies
- Ambulance equipped with oxygen facility available round the clock
- Manned 24\*7 under supervision of qualified and experienced medical officer , male nurses
- Tie-up with nearby hospitals; patients requiring help are referred to the respective specialty hospital
- Necessary antidotes and other drugs/ medicines required for general OPD available
- Shower room facility for all employees to eliminate any possibility of contamination before leaving the site

# Agenda

Introduction to LANXESS

Sustainability

Health and Safety

## Corporate Social Responsibility (CSR)

- LANXESS' global CSR strategy
- Initiatives undertaken



# Focus areas for LANXESS CSR globally

**Climate protection**



**Water**



**Education**



**Culture**



# CSR initiatives at Nagda – contributing to local communities beyond business boundaries (1/2)



Contribution of fully functional public library for students equipped with text and reference books as well as magazines



Economic empowerment of women by setting up a stitching centre in Durgapura village with equipment



Installation of Water Coolers in Nagda



Installation of Solar Street Lamps in Mehatwas village



# CSR initiatives at Nagda – contributing to local communities beyond business boundaries (2/2)



Support for over 1,100 students studying in government schools in Nagda with infrastructural development, stationary and educational materials



Support for facility upgradation of Special Need Education Home, NGO for differently-abled children

# CSR initiatives at Jhagadia – contributing to local communities beyond business boundaries



## Sewa Rural

- Contribution to Sewa Rural, a voluntary organization involved in health and development activities in rural and tribal areas
- Fund used for Vivekananda Gramin Tekniki Kendra's project on equipping amenities and supporting services for students



## Industrial Training Institute (ITI) Jhagadia

- LANXESS sponsored education of 189 students a year
- Sponsorship included one year of educational training, students' fee and purchase of engineering toolkits



## Kanya Kelavani Nidhi

- LANXESS contributed to child welfare and education program for girls initiated by government of Gujarat
- Chief Minister and his team canvass remote corners of Gujarat yearly to ensure no girl child remains illiterate

# LANXESS

A solid red horizontal bar is positioned below the 'LAN' portion of the 'LANXESS' logo.

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