



Engineering a safer 'Fatima Group' by introducing STAMP into our Fertilizer Manufacturing Businesses

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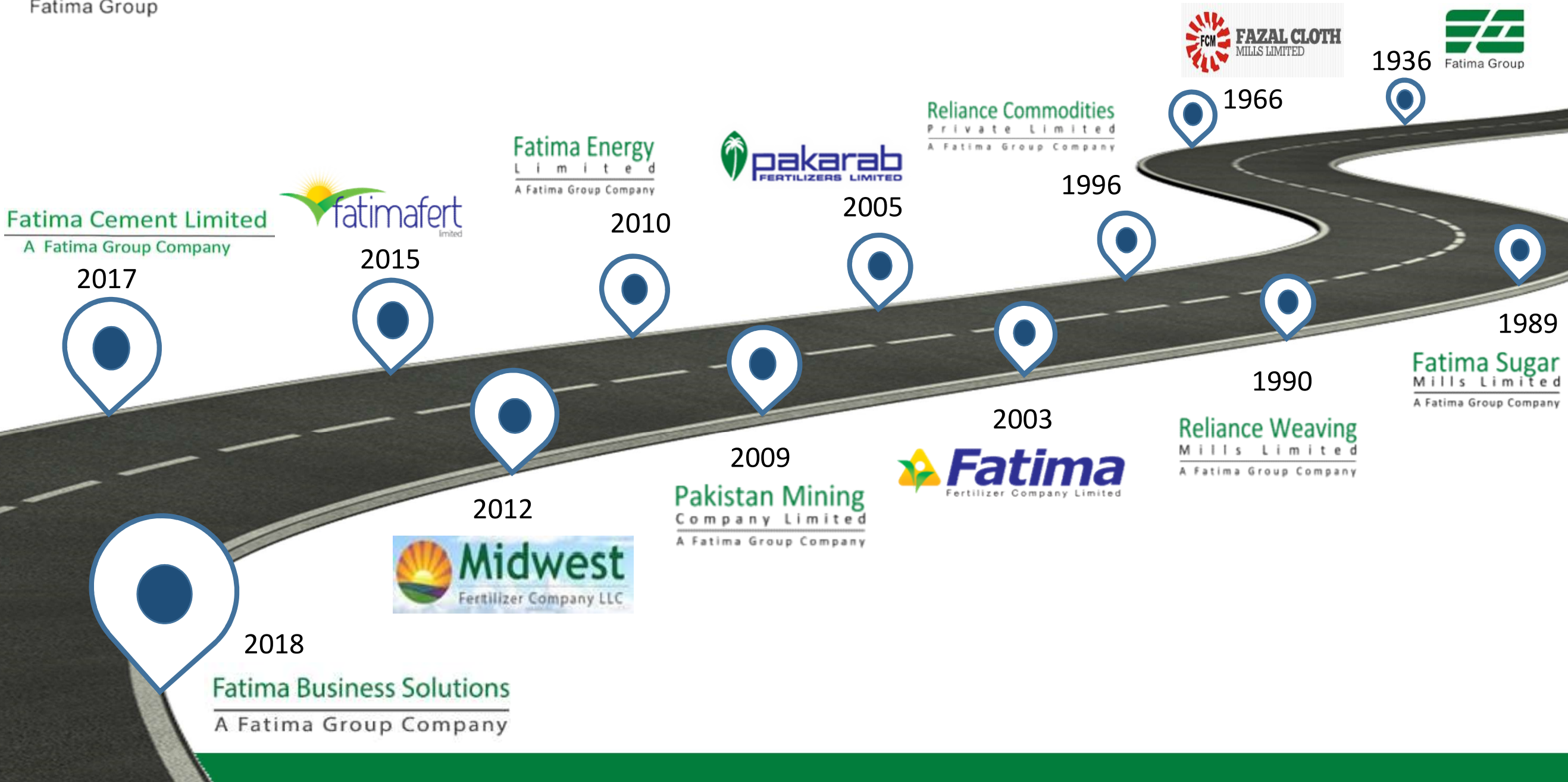
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Fatima Group: Business Growth Roadmap



Business Growth Roadmap





Google^{PK}



Pakistan

Country in South Asia

Pakistan, officially the Islamic Republic of Pakistan, is a country in South Asia and on junction of West Asia, Central Asia and East Asia. It is the fifth-most populous [Wikipedia](#)



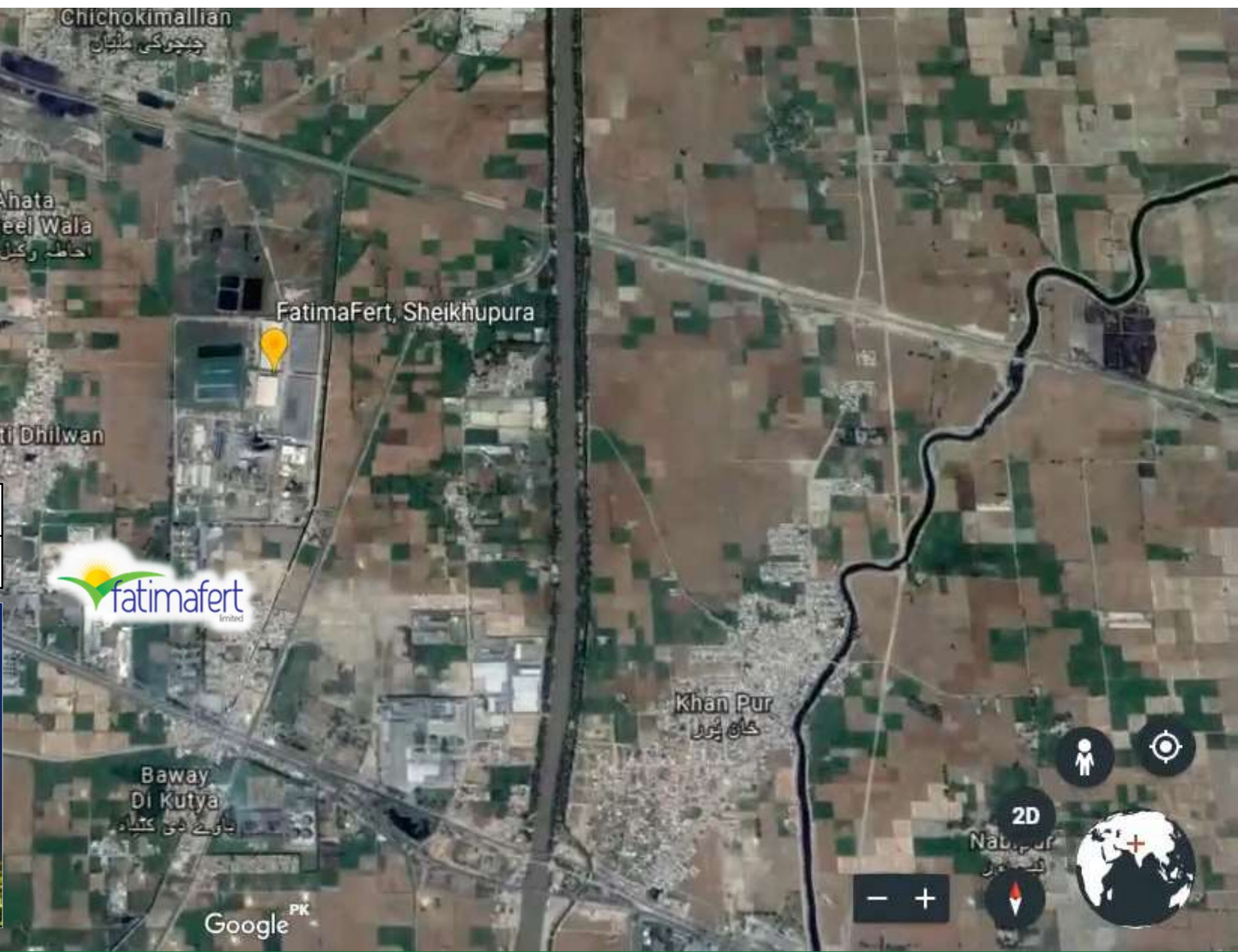
People also explore...



3D



Ammonia	270,000 MTPA
Fertilizer	450,000 MTPA





Pakarab Fertilizers Pvt Ltd

Ammonia	316,000 MTPA
Fertilizer	854,500 MTPA



Google PK



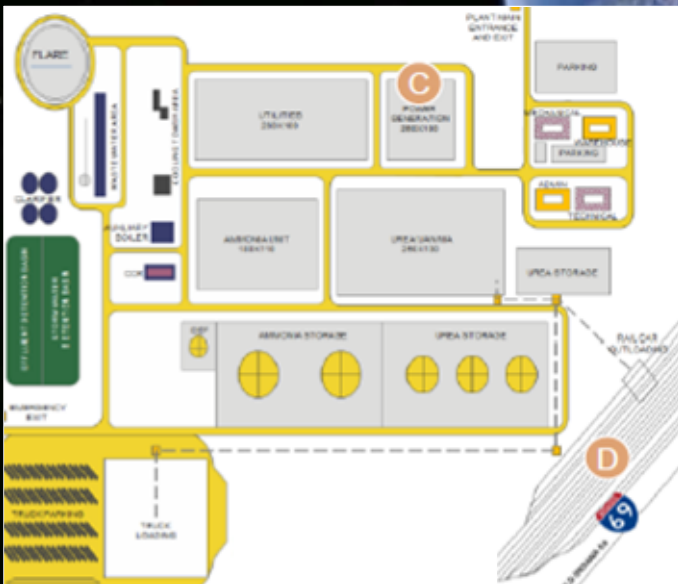


Ammonia	545,000 MTPA
Fertilizer	1,280,000 MTPA





Investment	\$3.0 Billion
Ammonia	760,000 MTPA
Urea (G)	400,000 MTPA
UAN	1,400,000 MTPA
NA	500,000 MTPA
DEF	300,000 MTPA

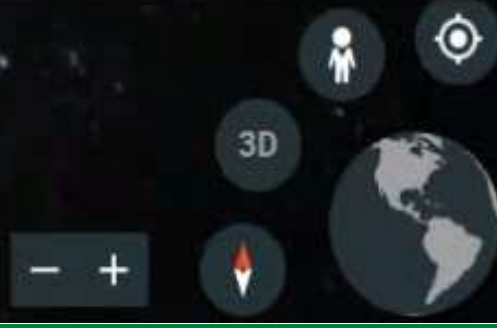


United States

Country in North America

The U.S. is a country of 50 states covering a vast swath of North America, with Alaska in the northwest and Hawaii extending the nation's presence into the Pacific.

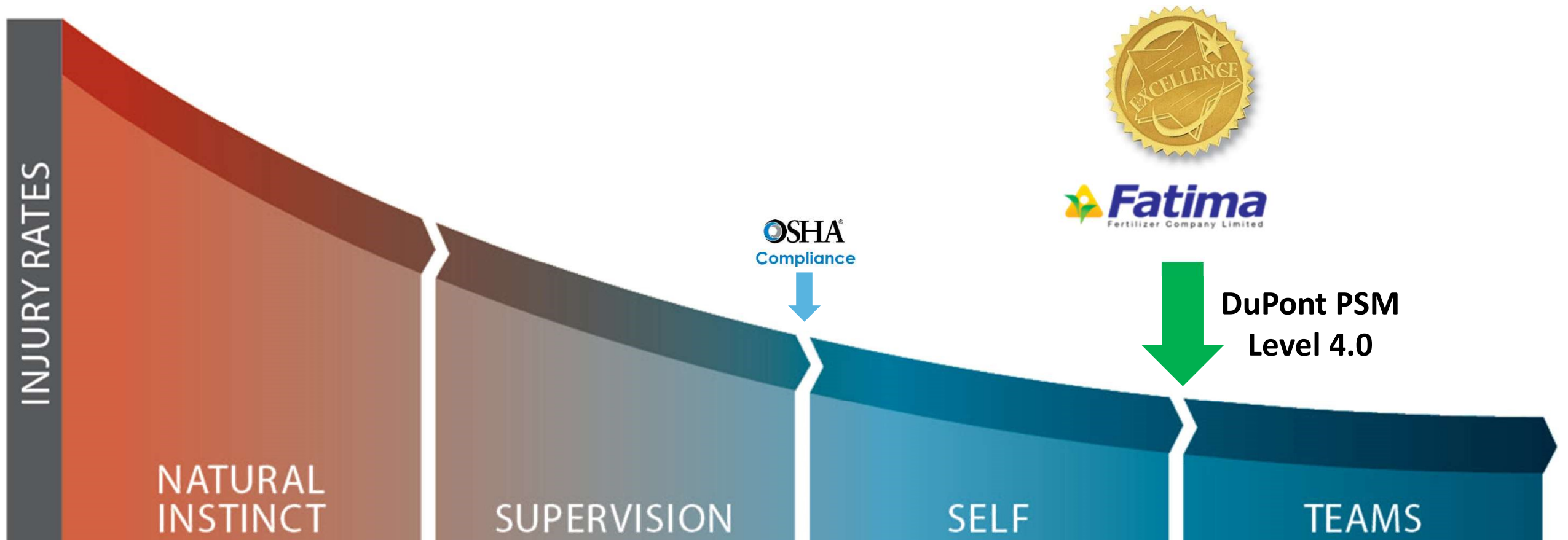
Points of interest in United States



Process Safety Excellence

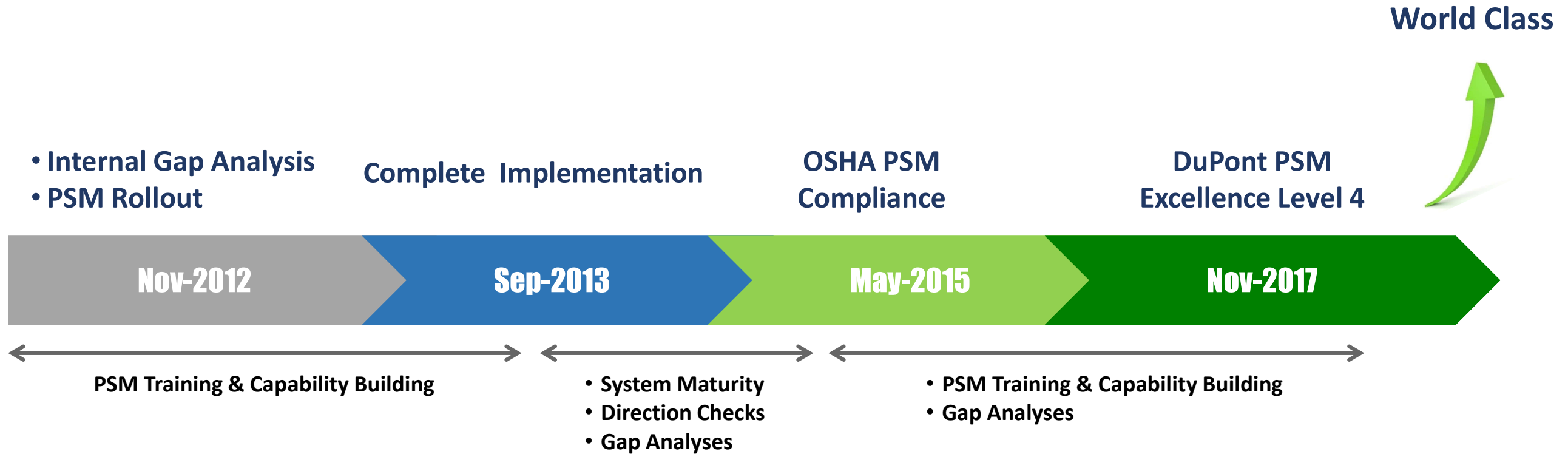
Process Safety Excellence

“Consistently demonstrates exceptionally capable practices. All aspects of PSM are documented, fully in place, consistently applied and generally recognized to be among the better examples of safety programs.”



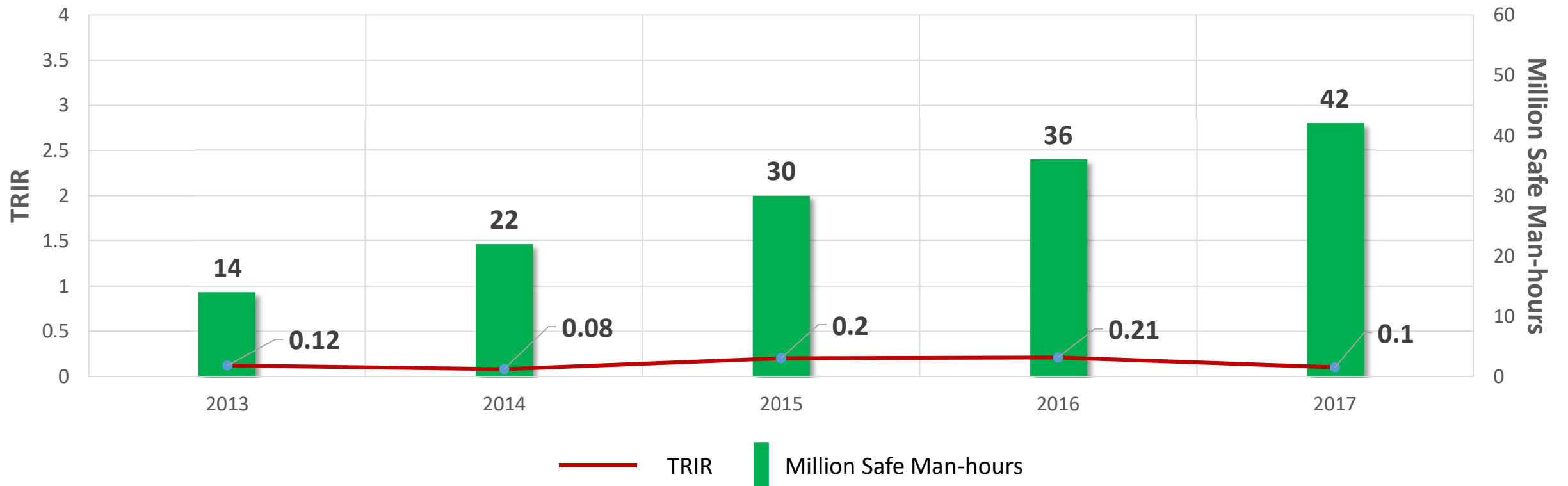
DuPont Bradley Curve

Salient PSM Milestones



5-Year Safety Performance

Fatima Fertilizers Limited



49

Million Safe Man-hours and the journey continues...

Certifications and Awards

ISO 9001 OHSAS 18001 ISO 14001

ISO 22000 HACCP ISO 27001



protect&sustain
IFA'S PRODUCT STEWARDSHIP INITIATIVE



International
Safety Award
2017 Merit



Introducing STAMP into FG's Fertilizer Manufacturing Businesses



FG's Commitment to Operational Excellence

In our quest to achieve Operational Excellence, we have:

- Implemented OSHA/DuPont Process Safety Management System
- Brought improvement in operating discipline and practices
- Ensured competency and professional development of our people
- Strived to achieve excellence in functional performance
- Ensured learning from internal and external lessons

FG's Commitment to Operational Excellence

Typical process safety hazards encountered at a fertilizer manufacturing facility:

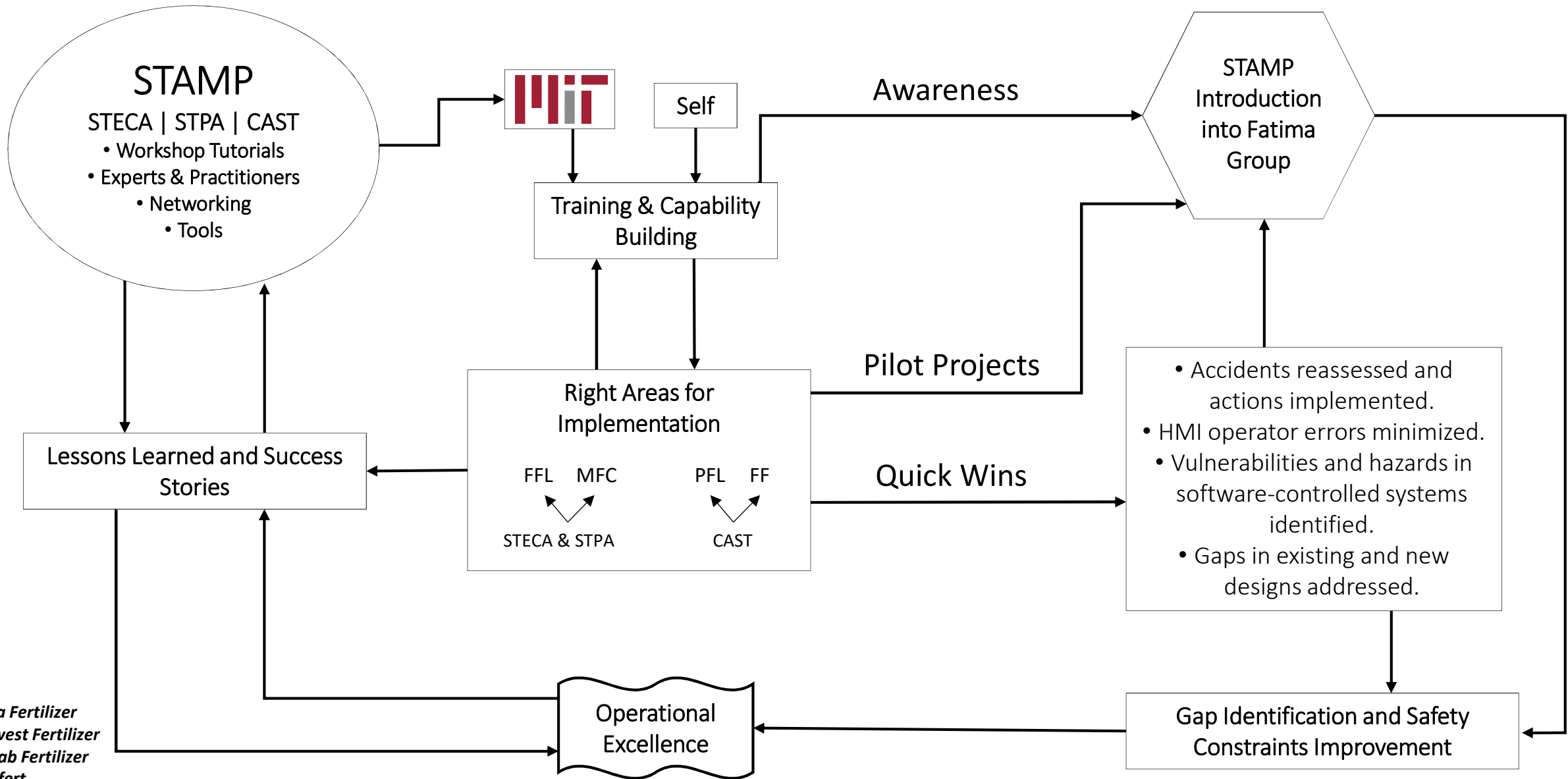
- high pressure and temperature,
- flammable and toxic fluids,
- runaway exothermic reactions, etc.

These have a potential for large scale accident or injury, resulting in loss of life, loss of production and prolonged downtime.

“FG’s leadership believes that identifying and mitigating process safety hazards require expert knowledge of the processes involved and use of innovative safety concepts and techniques such as STAMP. This is a logical step to keep the organization abreast with the global advancement in systems and operations design.”

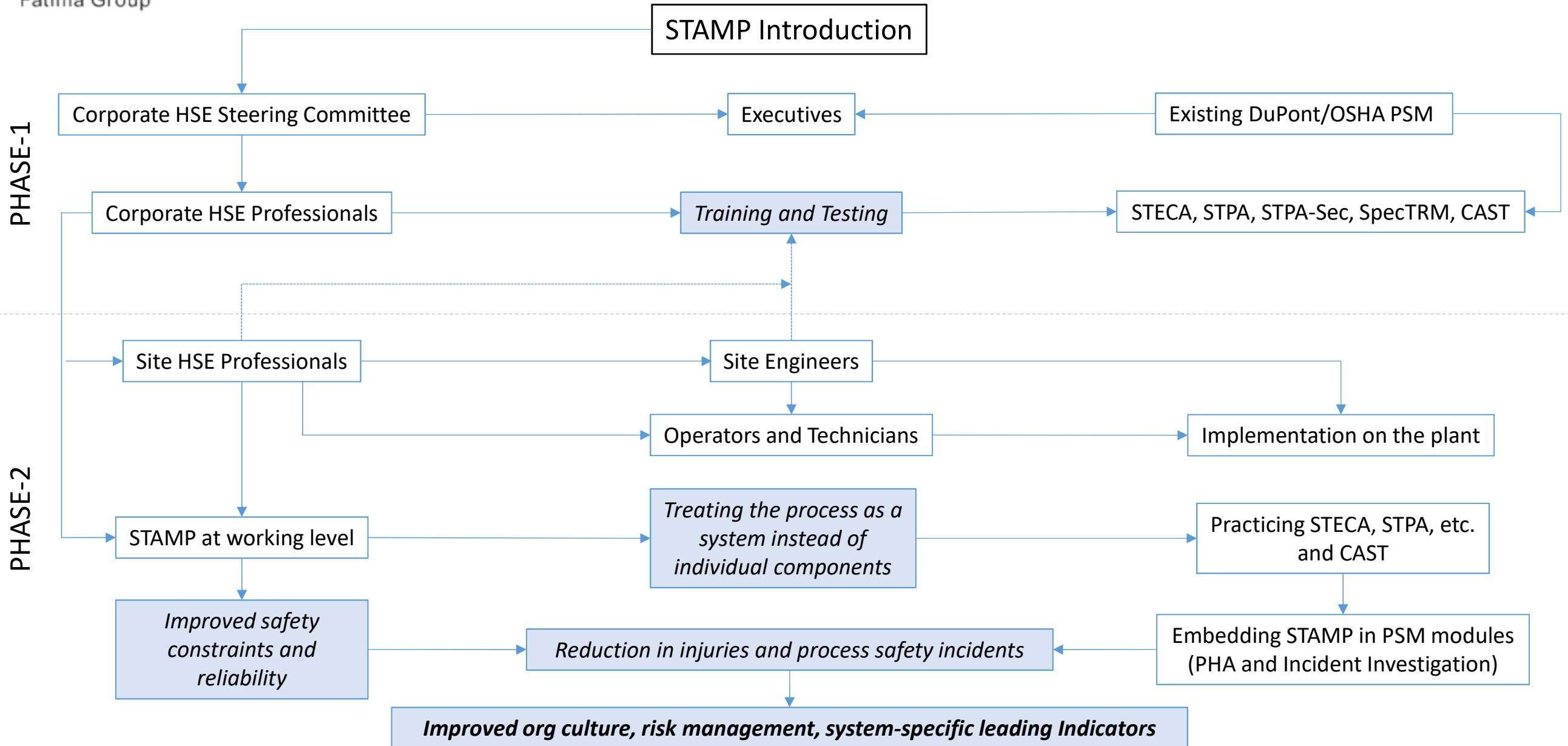
Proposed STAMP Implementation Process

(Not a Control Structure)



FFL: Fatima Fertilizer
 MFC: Midwest Fertilizer
 PFL: Pakarab Fertilizer
 FF: Fatimafert

Approach to STAMP Introduction into FG



Approach to STAMP Introduction into FG

PHASE-1 (2018)

- Introduce STAMP and create awareness in a simple and easy-to-understand manner as initial explaining and buy in can be a barrier to successful implementation.
- Build local capability through training and networking.
- Identify and lead pilot projects and quick wins:
 - **STECA and STPA:** To be deployed at FFL and MFC, in parallel with PHA (HAZOP, What-If) of selected systems and draw a comparison of the findings, recommendations and HSE constraints.
 - **CAST:** Reinvestigate one high severity incident each at PFL and FF sites to identify and analyze weak systems and compare with the existing RCA action items.
- Gauge the value addition through STAMP and bridge gaps.
- Share lessons learned and success stories.

Approach to STAMP Introduction into FG

PHASE-2 (2019-21)

Embed STAMP into the existing PSM framework and HSE systems:

- Apply STAMP concepts to remodel the HSE organization and the techniques being used to analyze risks.
- Understand and improve the interactions between cultural and risk-based PSM elements.
- Identify areas where PSM treats safety as a component and subsequently apply the STAMP process control model.
- Identify systems and analyze unsafe behavior hazards at each system level and propose safety requirements and constraints for each system level.
- Improve safety control structure (both system and human controllers) to cover roles and responsibilities of HSE teams as well as line management.

Thank You

