



## IPLOCA HSE Committee Initiatives

Bruno Maerten

HSE Committee Chairman



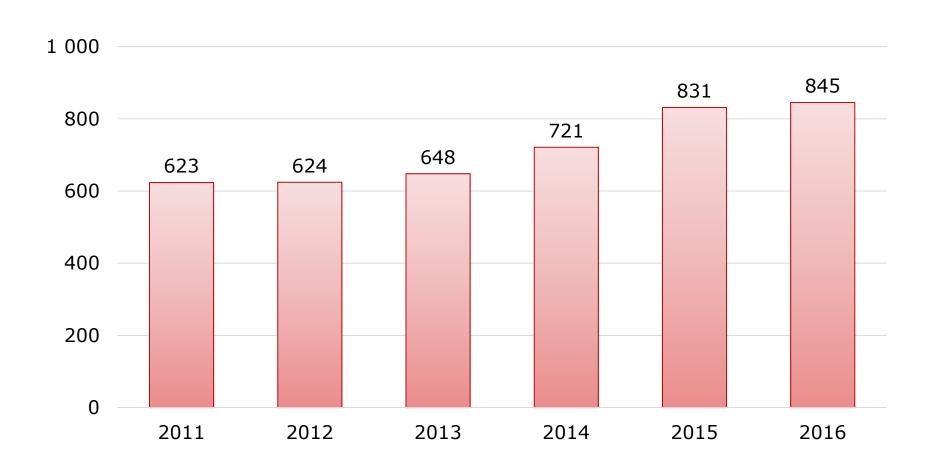


### 2016 IPLOCA Health, Safety & Environmental Statistics





#### **Worked-Hours in Millions**







#### **KPI Objectives for 2020**

#### Lagging indicators:

- O fatalities
- Total recordable incident rate (TRIR) < 1</p>

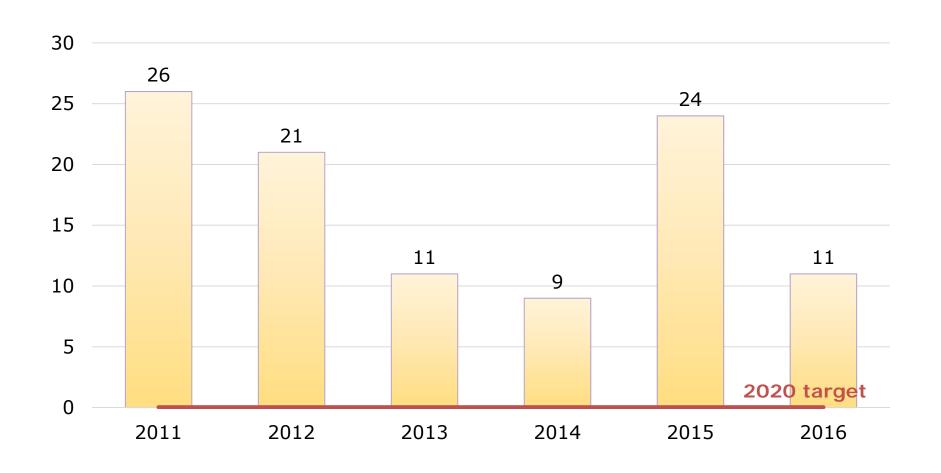
#### Leading indicators:

- Minimum 30'000 recorded near misses
- ➤ H&S training rate > 15′000 hrs per million wkhrs





#### **Fatalities**







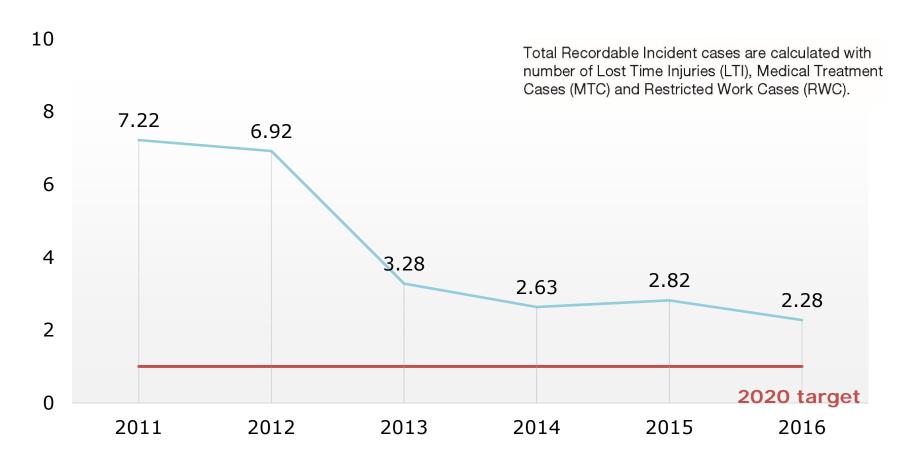
#### **Fatalities**

- 5 in road traffic accidents
- 1 during lifting operations
- 4 in collisions with site equipment





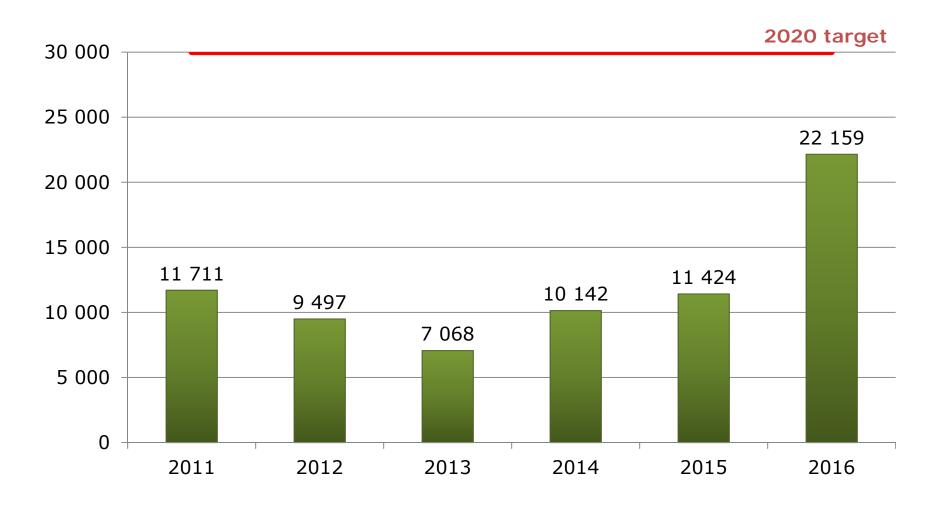
### Total Recordable Incident Rate (TRIR) (per million worked hours)







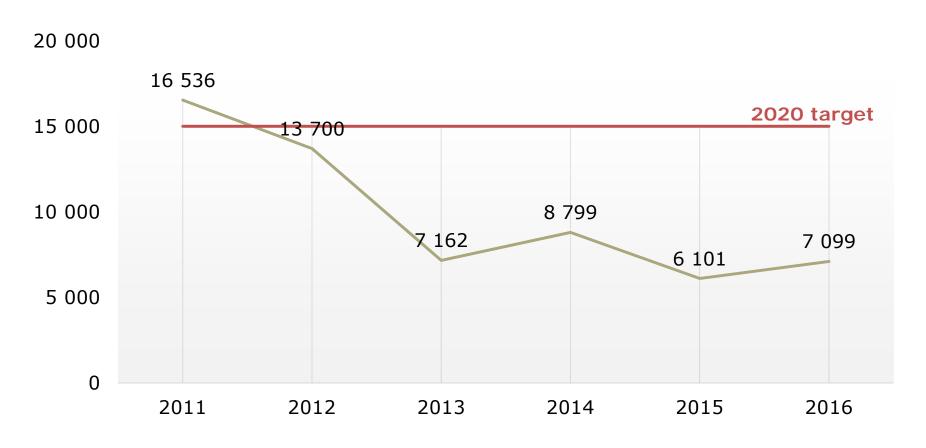
#### **Near Misses Reported**







### Health & Safety Training Frequency Rate (per million worked hours)







2016

#### **KPI Objectives for 2020**

Lagging indicators:

> 0 fatalities / 11

 $\triangleright$  Total recordable incident rate (TRIR) < 1 / 2.28

#### Leading indicators:

Minimum 30 000 recorded near misses
/ 22 159

H&S training rate > 15 000 hrs per million wkhrs / 7 098





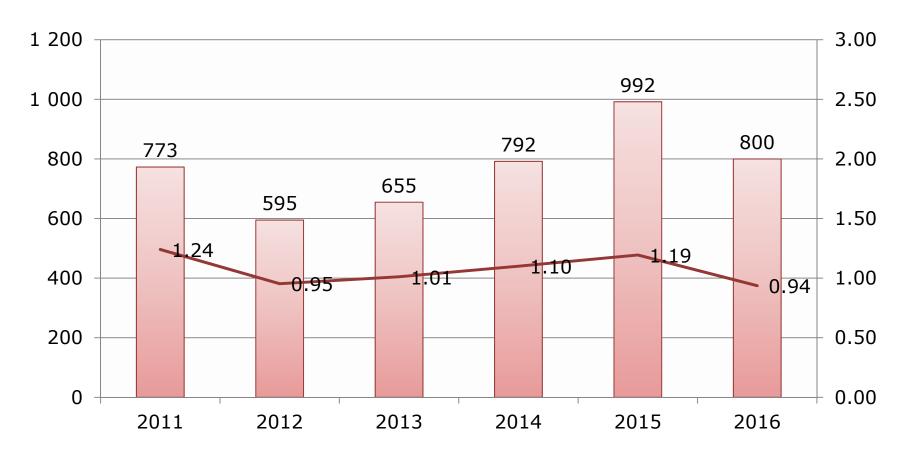
### LTI Frequency Rate Index (per million worked hours)







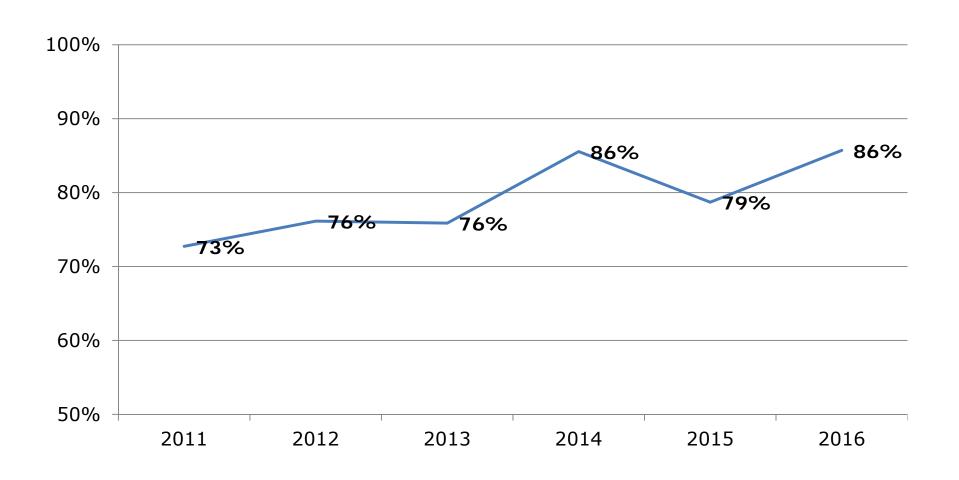
### Road Traffic Accidents (and rate per million worked hours)







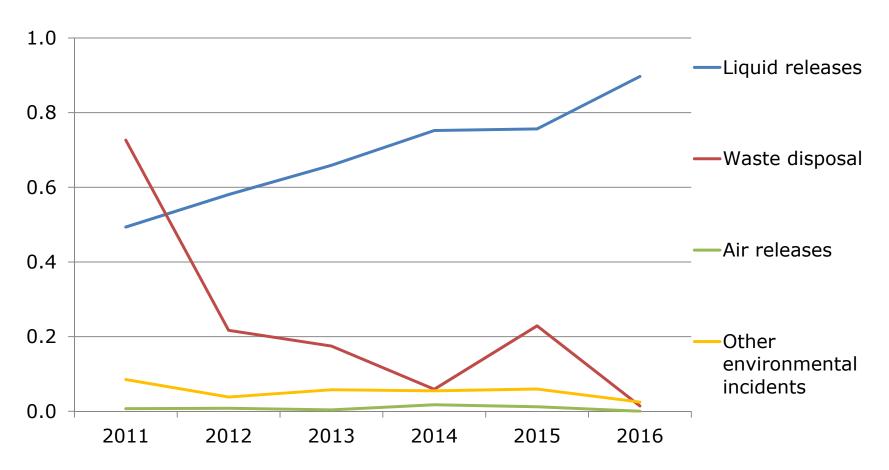
#### **ISO 14001 certified IPLOCA Members**







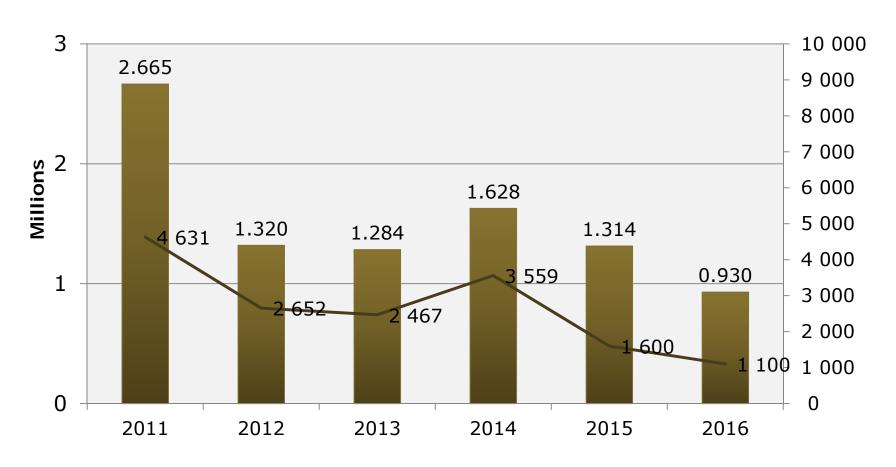
### **Environmental Incidents Frequency Rates** (per million worked hours)







### Environmental Training (and rate per million worked hours)







### 2016 IPLOCA Health, Safety & Environmental Statistics

#### Results published in:

- 2016 Health, Safety & Environmental Statistics Report

- www.iploca.com







### Health & Safety Workshop (& webcast)

Humans & Machines: The Hidden Hazards





### Health & Safety Workshop (& webcast) Humans & Machines: The Hidden Hazards

#### Geneva, Switzerland - 24 October 2017

- Targeted to all pipeline professionals
- International expert speakers selected amongst contractors, operators and consultants
- Attendees share their lessons learned and actions forwards
- Followed by the Novel Construction Initiative Fall Session
- All presentations will be available live online





### Health & Safety Workshop (& webcast) Humans & Machines: The Hidden Hazards

Preview Radar System Mustafa Abusalah, C.C.C.

Feedback and Point of View from an Operator Audrey Bodin, TIGF (Transport et Infrastructures Gaz France)

Man and Machine: The Right Fit
John Haynes, Trans Adriatic Pipeline AG

Humans and Machines: the Hidden and Not So Hidden Hazards Alan Quilley, Safety Results









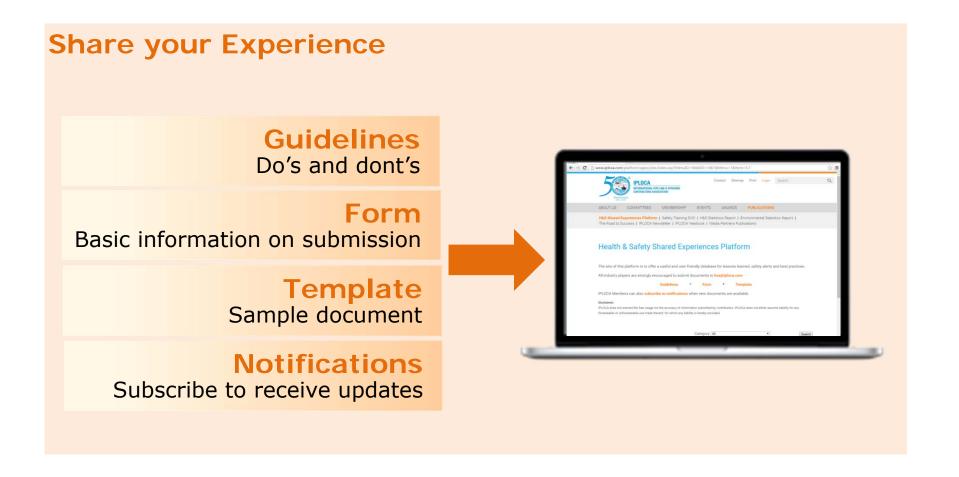


#### **Objectives:**

- ✓ Raise awareness of potential health & safety issues
- ✓ Avoid common mistakes
- ✓ Reduce illnesses, incidents, accidents and injuries
- ✓ Improve early discovery of emerging events and issues
- Encourage communication and sharing
- Consider health & safety solutions and best practices
- ✓ Improve safe work processes and productivity
- Promote innovative initiatives











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155 documents available

2017 target: 250 documents

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#### **IPLOCA Awards**





#### **IPLOCA Awards**

#### Awards are intended to:

- Reward those who are "leading by example"
- Share information amongst the industry
- Inspire the industry for new initiatives
- Profile the industry trends

















## 2017 IPLOCA Health & Safety Award sponsored by Chevron

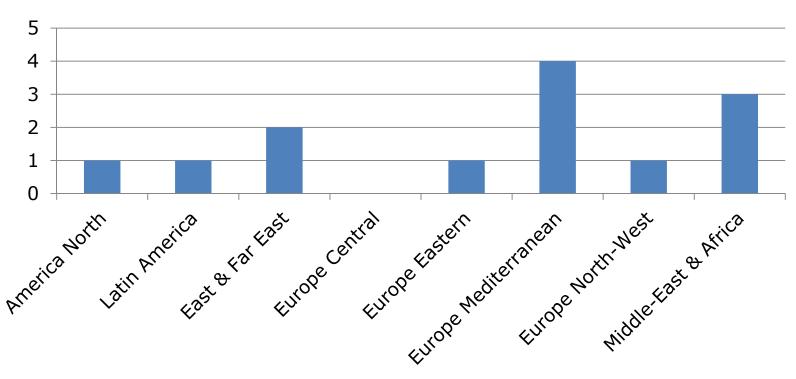






### 2017 IPLOCA Health and Safety Award, sponsored by Chevron

#### 13 entries received





#### 2017 IPLOCA Health & Safety Award

### "The Eagle-Trainer"







# Consolidated Contractors Company 2017 IPLOCA Health & Safety Award "Preview Radar System"

#### RADAR-VISION **FUSION** Zone Camera/Monitor Adjustable Detection Zone **BLIND ZONE PROTECTION Object Detection Radar**

#### PIPE PADDING

### NIP POINT GUARDING SUMMARY

DELTA MACHINERY
A unique innovation
to avoid incidents and
target Zero Accidents.

Submission to IPLOCA Health and Safety Award 2017









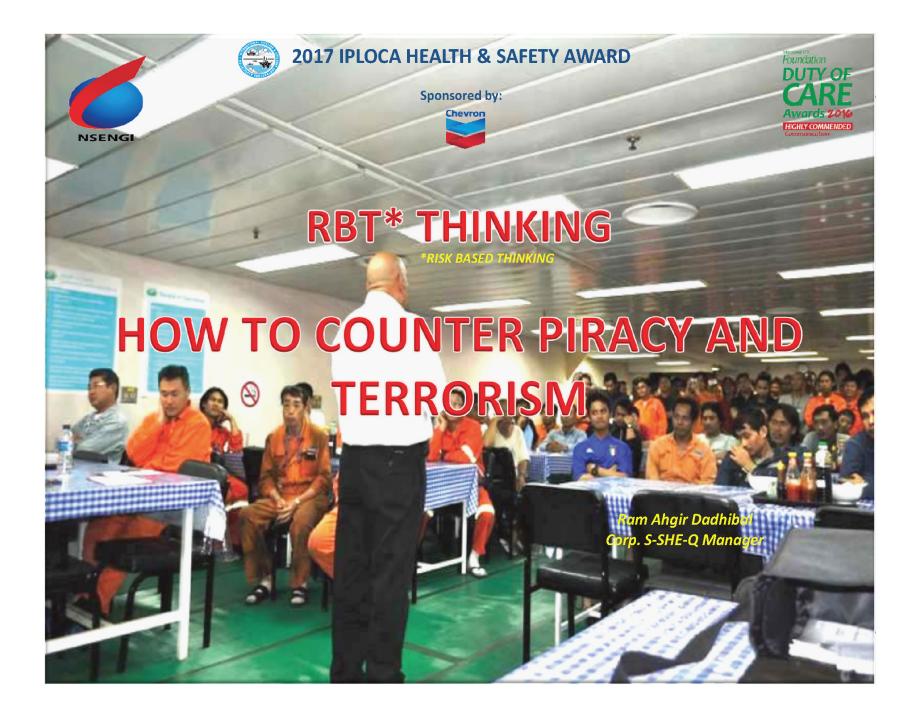
#### KALPATARU POWER TRANSMISSION LIMITED

#### Infrastructure Limited

#### 2017 IPLOCA Health & Safety Award

Stop work authority





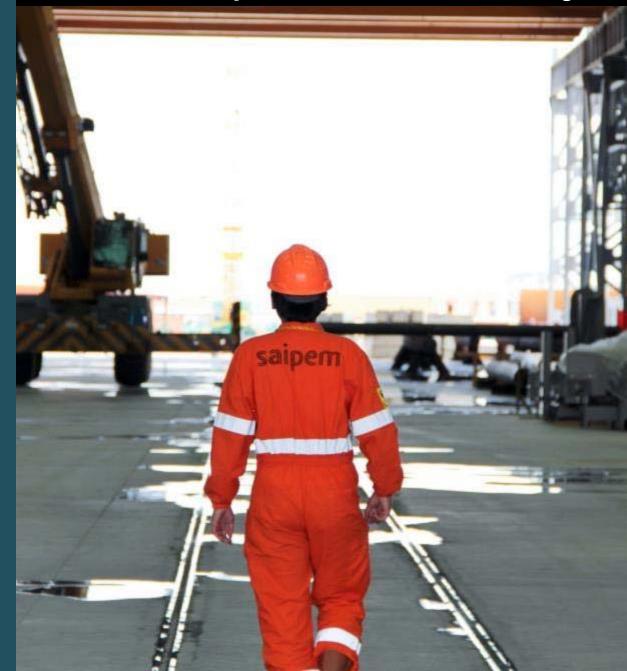


### Leadership in Health and Safety

Sustaining cultural change in an offshore fleet

D. Scotti, D. Matkin, N. Stockham

#### Leadership in Health & Safety













## Supervisor Safety Positive

A road to success

**IPLOCA HEALTH AND SAFETY AWARD 2017** 





Risk Perception and Causes of Accidents related to Behavior Psycho-technical Essay.





## HEALTH & SAFETY – TWO MILLION MAN-HOUR AWARD





## 2017 IPLOCA Health and Safety Award, sponsored by Chevron

2 Runners-Up







## 2017 IPLOCA Health and Safety Award, sponsored by Chevron

1st Runner-Up



### 2017 IPLOCA Health & Safety Award

## "The Eagle-Trainer"





#### **DESCRIPTION**

The Eagle-Trainer, is an on-site Safety improvement program adopted by Bonatti SpA. The use of video drones for Safety training and awareness of personnel on Project is part of the initiative endorsed by the Top Management to improve performance through enhanced Safety Culture.

The videos are used for two main purpose:

- Hazard spotting and familiarization;
- Instant Training;





#### **INSTANT RE-TRAINING**

A dedicated Drone-Trainer is on duty at sites to monitor and record the work activities.

Once the Drone has recorded the activity, the video is customized, highlighting good practice and unsafe acts / conditions and the Drone-Trainer prepares the tailored training based on the identified issues.

The Drone-Trainer reaches the monitored work-area, gathers the involved personnel and provides them the Instant Training showing the customized video, refreshing to the crew all devoted HSE instructions and standard.

The Instant Re-Trainings are performed directly on the worksite

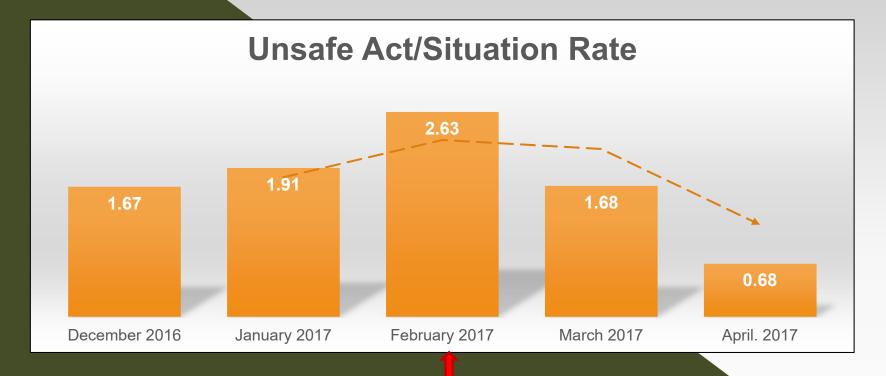




#### **ACHIEVEMENTS**

Since the Eagle-Trainer was utilized, an improvement of personnel involvement in Safety aspects is recorded.

The Unsafe Act and Situation Rate (UASR), from the start of the initiative on February, considerably decreased.



«The Eagle-Trainer» introduced on Project

UASR = Number of Unsafe Act and Situation\*1000/Worked Manhours







## 2017 IPLOCA Health and Safety Award, sponsored by Chevron

2nd Runner-Up





#### AT THE BEGINNING OF THE PROJECT

Several incidents occured on steep slopes at beginning stage. Due to tough weather conditions and the nature of the slopes, machinery, equipment, and containers slided, and caused material damage incidents and near misses.

Statistics show that %65 of total incidents were related to sliding & slippery

Operators were not sure of the angles of the slopes. Nor were they knowledgeable about the working limits of their machinery / equipment on the slopes & steepslopes.

There was no slope information signage through the RoW.





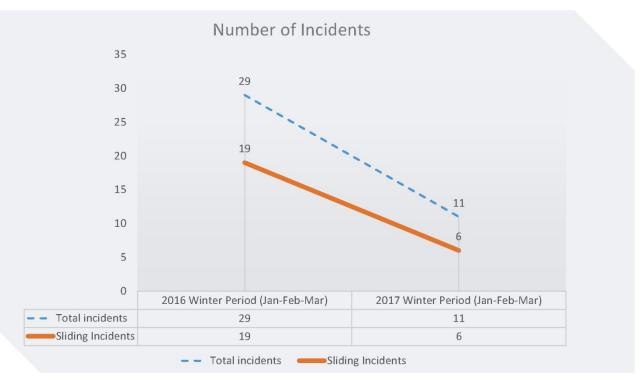
#### **ACTIONS TAKEN**

- Risk Assessment study reviewed with all site engineers & operators to determine the right control measures.
- ❖ All slopes & steep-slopes were spotted through the pipeline corridor.
- Warning & information signage was placed at both sides of the slopes.
- The working capacities of heavy plants were checked from the plant's working manuals and placed in the operator's cabin.
- A Specific Method Statement was prepared and all operators/drivers received trainings on how to work on inclined surfaces.
- Trainings held for all plant/equipment operators.





#### **RESULT**



Following the implementation of preventive measures, the number of the sliding incidents decreased by **68**% on the same period in year 2017.







## 2017 IPLOCA Health and Safety Award, sponsored by Chevron

Winner







#### Robot Road Safety Manager - Road Safety Initiative by DODSAL





#### What led to Robot Road Safety Manager initiative?

As a practice all Incidents including Near-Misses are analysed at the Project; Out of the total incidents analysed it was observed that Road Safety was an area where improvements were required. Hence to have a control on Drivers and Vehicles and their movements, a Technological support system was a necessity. This lead to the decision of implementing the FMS (Fleet Management System) Robot Manager system.

The Project has over 350 vehicles, crisscrossing the desert terrain to cover the entire distance of pipelines spread across 300 + Kms of brown field, clocking approximately 38,000 Kms each day. It is an uphill task to monitor, meet & train the drivers on regular basis due to time & various base location constraints.

Following systems pertaining to Road Safety have been in place from the beginning of the Project; HSE Induction, Defensive Driving Training, Daily Vehicle inspection, Journey Management Plan, Vehicle spot checks, Drivers Forum & In Vehicle Monitoring System (IVMS). This has enabled Dodsal to communicate, track, and record drivers behavior.

However, an element of possible human inaccuracy existed where the role and behavior of Transport coordinator was important in dealing with the Drivers . We have understood that, almost all the drivers are uncomfortable in coming to the Transportation coordinator to give explanations for their bad driving behavior. As the Drivers are from different regions and speak different languages , it was a daunting task for Transport /HSE department to coordinate and communicate with them. This initiative was selected based on uniqueness of the approach, where evaluation of Drivers was carried out by a Robot instead of an officer.



#### Robot Road Safety Manager - Road Safety Initiative by DODSAL





#### **Benefits of implementing Robot Road Safety Manager:**

This initiative was selected based on the following factors:

- High accuracy during evaluation and impartial driver review
- The Robot provides each driver with his own personal feedback
- In each feedback the FMS Robot will interact with the driver in a friendly manner, 1st by addressing the driver by his name and 2nd by speaking to him in his own native language as an option
- It is a Merit system based on loyalty to safe driving and hence each driver will collect points for his good driving and will lose points for his bad driving
- The Robot will inform the driver how to increase his safety points and avoid losing points in a friendly and close to the heart manner



- KM driven
- · Duration of over speeding violation in each speed zone
- Duration of not wearing seat belt
- Over revving occurrence
- Night driving occurrence
- · Harsh braking occurrence
- · Harsh acceleration occurrence

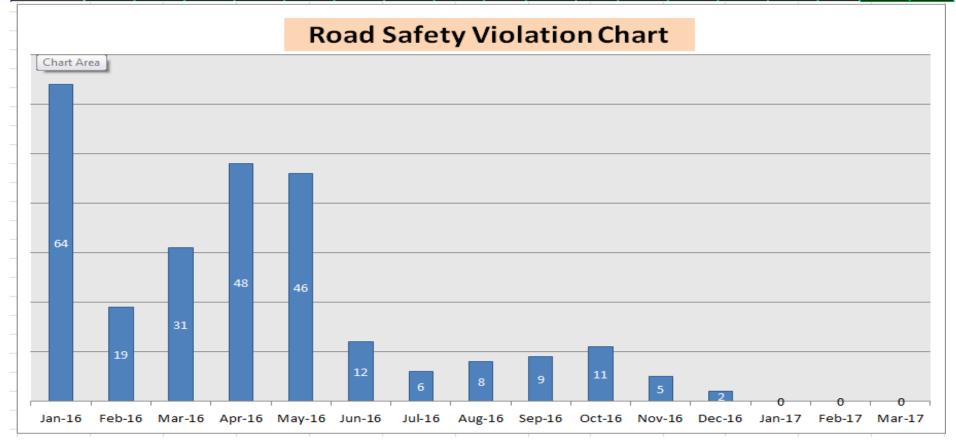




#### Road Safety Statistics Before & After Implementation of FMS Robot

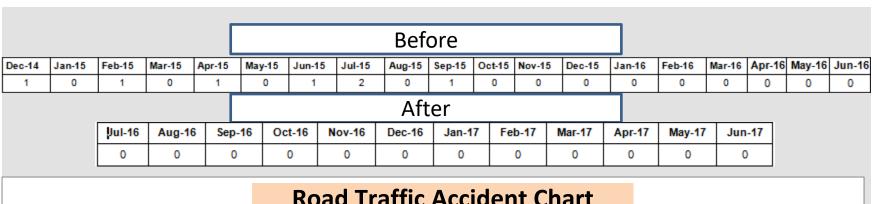


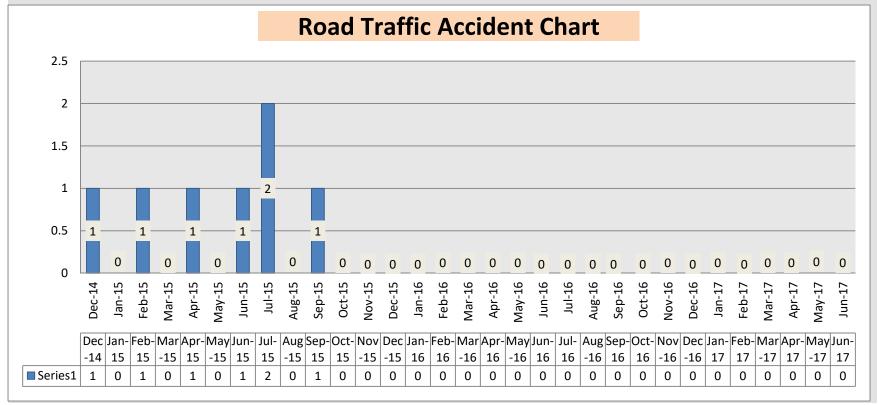
Before						After												
Month	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
Vehicle	398	425	407	427	415	400	395	342	372	355	345	334	325	306	285	278	285	280
KM driven	1,194,087	1,185,673	1,171,526	1,188,162	1,184,609	1,010,649	1,098,991	1,198,918	995,725	1,090,200	970,662	1,017,990	1,066,786	1,029,910	1,023,978	960,634	1,140,302	722,360
Violation	64	19	31	48	46	12	6	8	9	11	5	2	0	0	0	0	0	0
Ratio	0.05	0.02	0.03	0.04	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00



#### Road Safety Statistics Before & After Implementation of FMS Robot











### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

Santiago Villarreal Bravo Deputy JV Manager, Total E&P Mexico

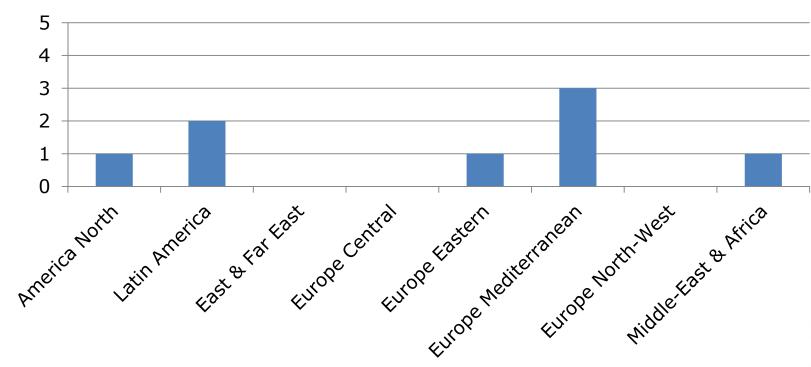






### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

#### 8 entries received







## Global Community Project Fund

IPLOCA 2017 Corporate Social Responsibility Award











## ALEGRIA DO AMBRIZ

An agricultural development and economic empowerment project bearing fruits and vegetables

2017 IPLOCA Corporate Social Responsibility Award Sponsored by Total





# WOMEN EMPOWERMENT IN CONGO: PROFESSIONAL TRAINING AND INSERTION

2017 IPLOCA Corporate Social Responsibility Award Sponsored by Total



## A WIN-WIN PARTNERSHIP: NEW ENTREPRENEURS IN KURYK

2017 IPLOCA Corporate Social Responsibility Award Sponsored by Total





### **GNEA Project - Formosa Argentina**

Integration of Native Communities - Historical and Archeological Factor







### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

2 Runners-up







### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

1st Runner-up





## ALEGRIA DO AMBRIZ

An agricultural development and economic empowerment project bearing fruits and vegetables

2017 IPLOCA Corporate Social Responsibility Award Sponsored by Total











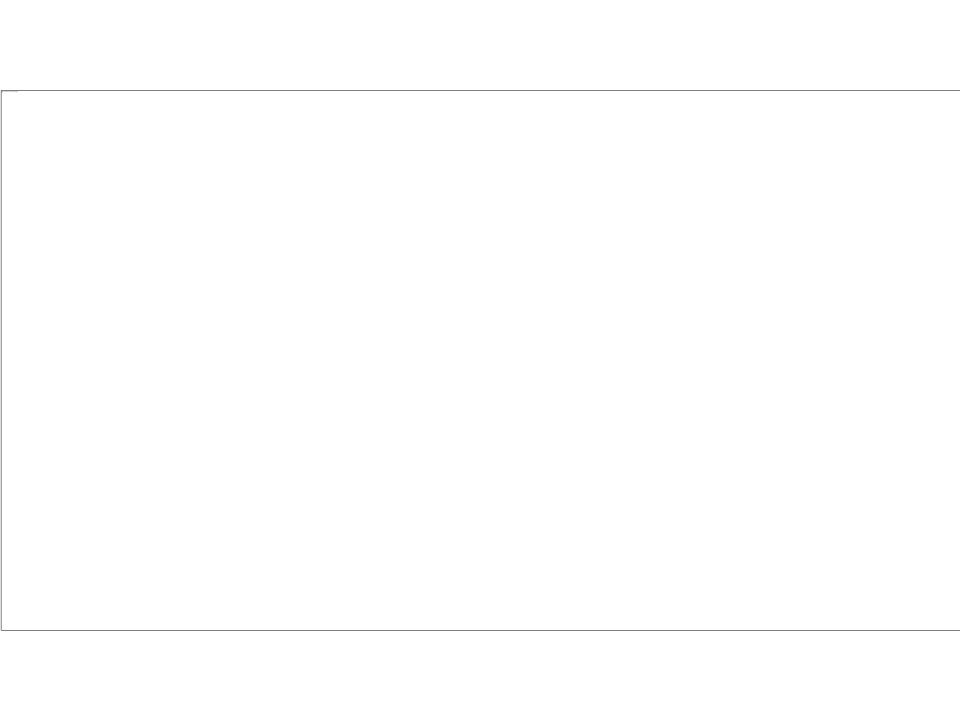


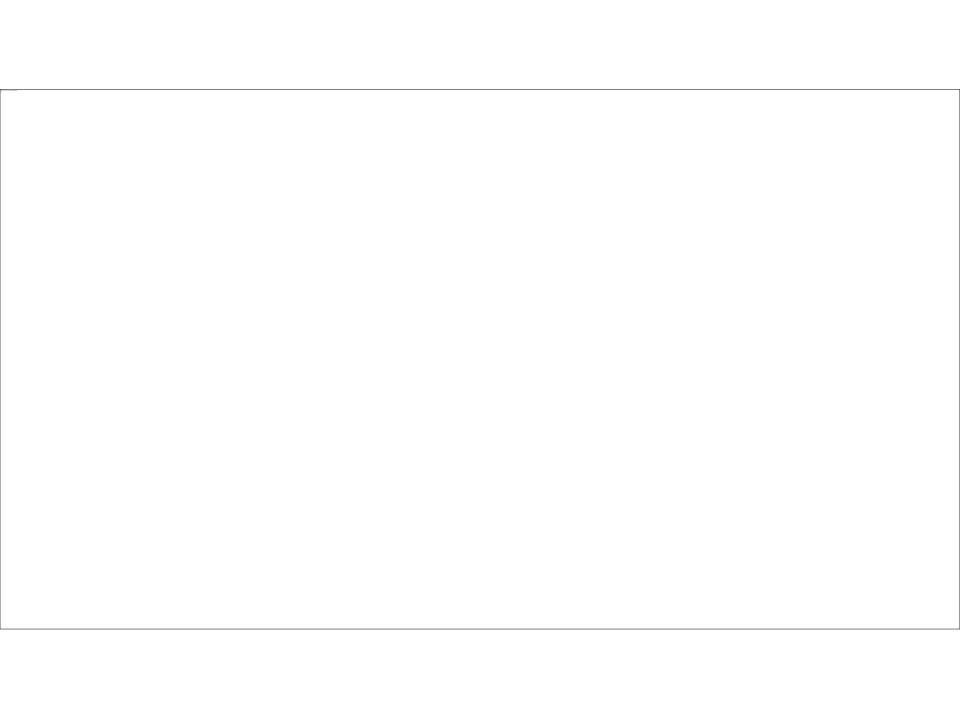
### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

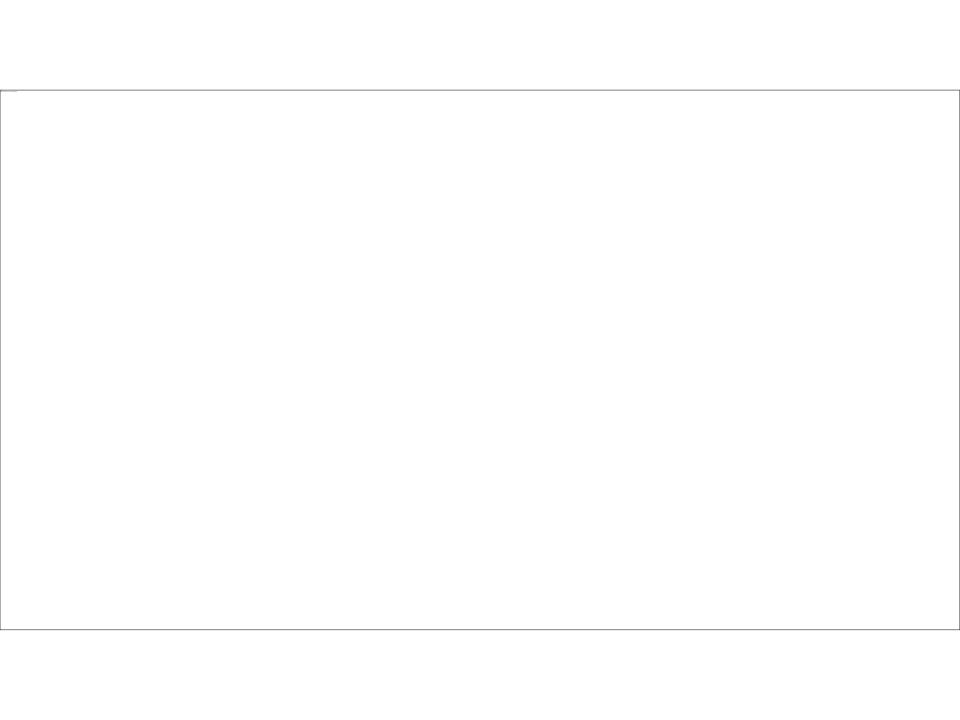
2nd Runner-up

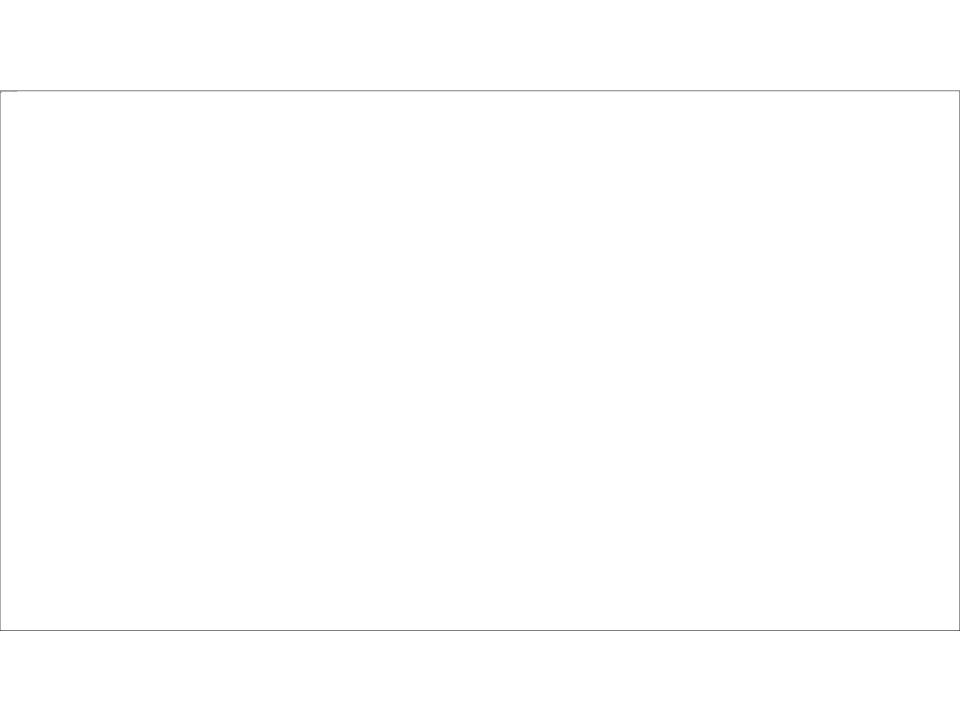


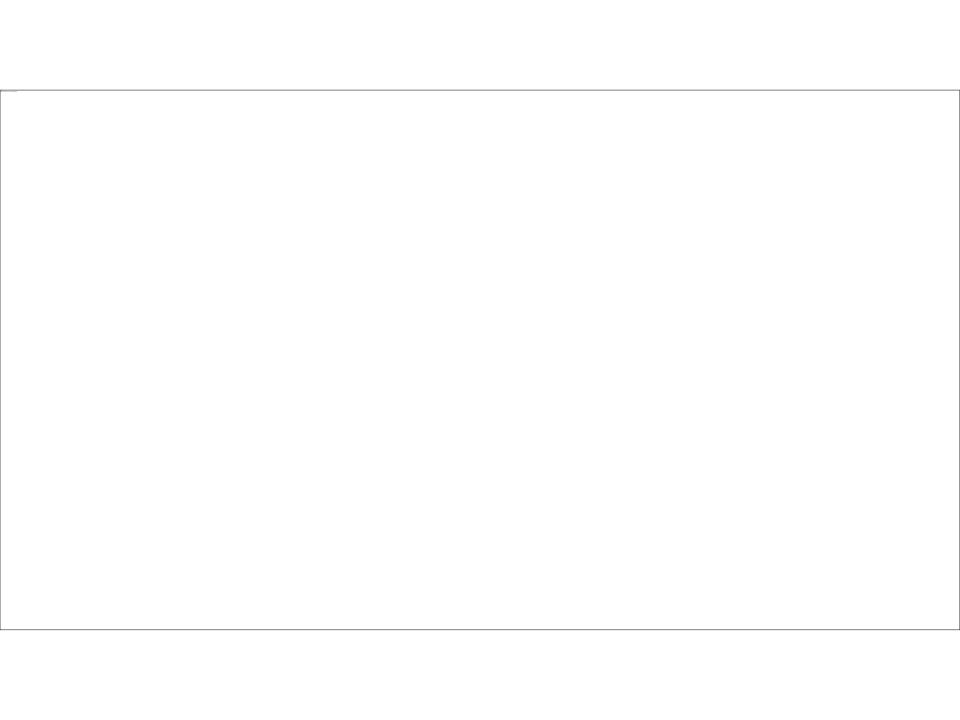
















### 2017 IPLOCA Corporate Social Responsibility Award sponsored by Total

Winner



### Global Community Project Fund

IPLOCA 2017 Corporate Social Responsibility Award

GLOBAL COMMUNITY RELATIONS







#### Global Community Project Fund

- Fluor is committed to creating sustainable communities where our employees live and work.
- The Global Community Project Fund was launched in 2012 and has taken place in 2012, 2014 and 2016.
- It puts Fluor's employees at the forefront of Fluor's corporate social responsibility and encourages engagement with the community.



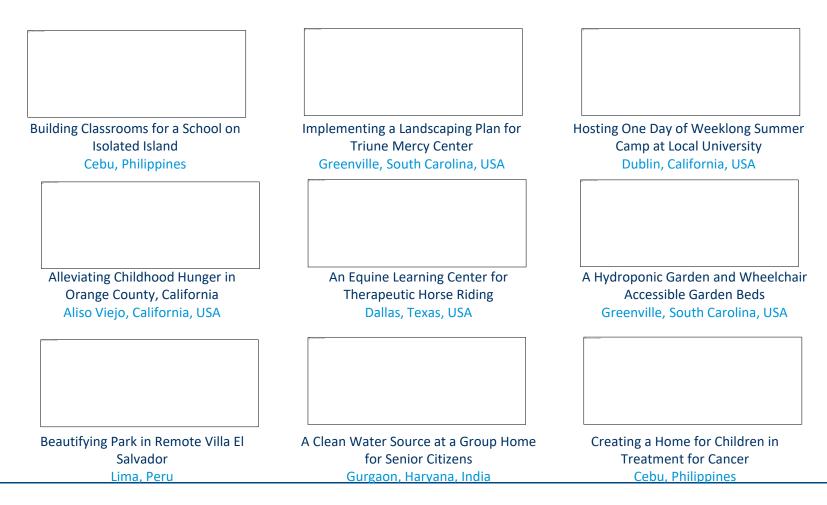
## 2016 Global Community Project Fund *Process*

- ▶ A \$100,000 fund to support local community projects.
- Employees across the globe nominated nearly 100 projects in 12 countries to receive funding.
- ▶ 30 finalists were selected via a thorough evaluation process.
- ▶ 10 winning projects were chosen via a public, online vote to encourage community engagement, with nearly 800,000 votes cast.
- Selected projects each receive \$10,000 in funding, as well as employee volunteers to support the projects.
- One project is selected as the Best-in-Class and receives an additional \$10,000.

2016 Best-in-Class Winner
Building a Clean Water Kiosk for Safe
Drinking Water in India
Gurgaon, India

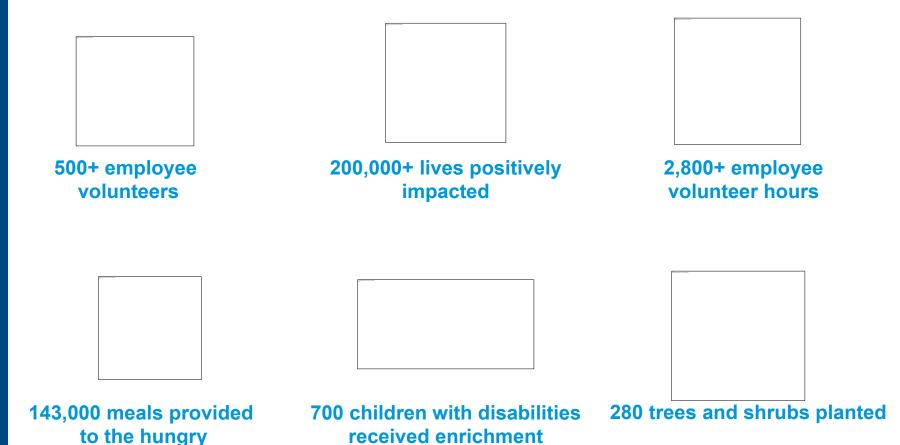


### 2016 Global Community Project Fund Additional Projects





# 2016 Global Community Project Fund *Results from 10 Projects*









#### **IPLOCA Awards**

Details on winning entries available online at <a href="https://www.iploca.com">www.iploca.com</a>