

# Runway Safety Team and Stakeholder Involvement

## Airport Perspective

### Session 2 Presentation 4





# Outline

- **RST at Bangalore International Airport (BIA).**
- **Case study - Proactive Runway Maintenance.**
- **Collaborative approach & stakeholder involvement.**

# Runway Safety Team at BIA

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- Established in Aug 2008 as per DGCA (India) Guidelines.

# RST Functions

- Meets every quarter.
- RST Visits Runway & operational areas, prior to the meeting.
- Minutes of the meeting forwarded to the Regulator.
- Points addressed
  - Identification of Hotspot, taxiway designation & airfield signage.
  - Runway incursion prevention measures.
  - Inputs for construction of second Rwy.
  - Departures from RET.
  - Runway capacity enhancement & ROT related studies.
  - **Proactive Runway maintenance.**

## Case study

# Proactive Runway Maintenance.

# The Runway at BIA



- Length - 4000m, width - 45m, PCN - 80/F/B/W/T.
- Constructed - 2007 , Operational from 2008.
- Code E with occasional Code F operations.
- 350 ATMs (increasing at 14.29%).

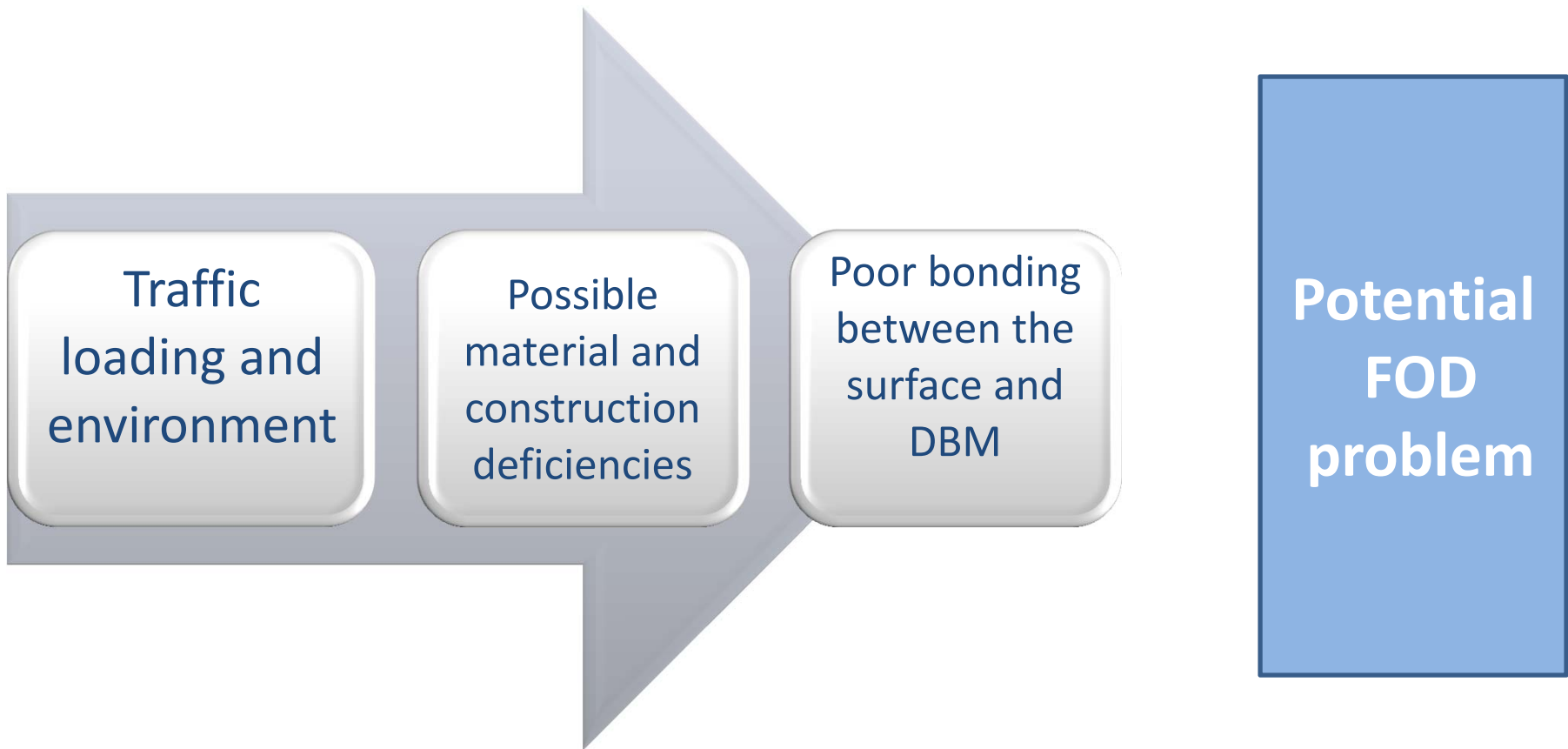
# Maintenance work & Rwy conditions

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- Weekly preventive maintenance.
- Patch work to correct localized deterioration.
- No large scale failures.
- RST deliberates on preventive Runway maintenance.
- Detailed expert evaluations/studies conducted.

# Safety study



**Proactive Safety measure - Preventive maintenance**



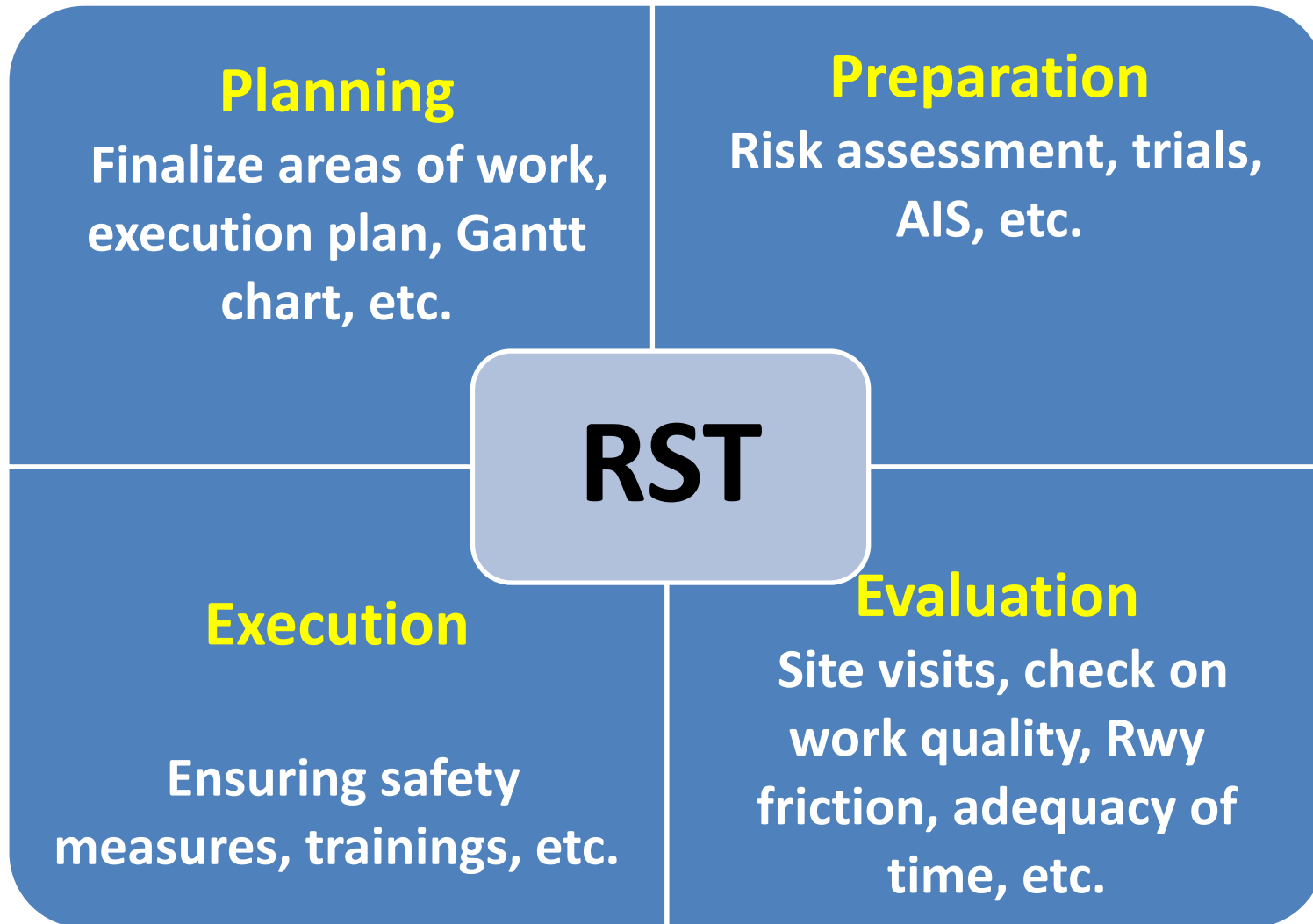
# The Challenges

- Single Rwy operations.
- Airline network disruptions.
- Time constraints.
- Notification & AIS issues.
- Weather related issues.
- Slot allocations & capacity constraints.
- Resource mobilization.

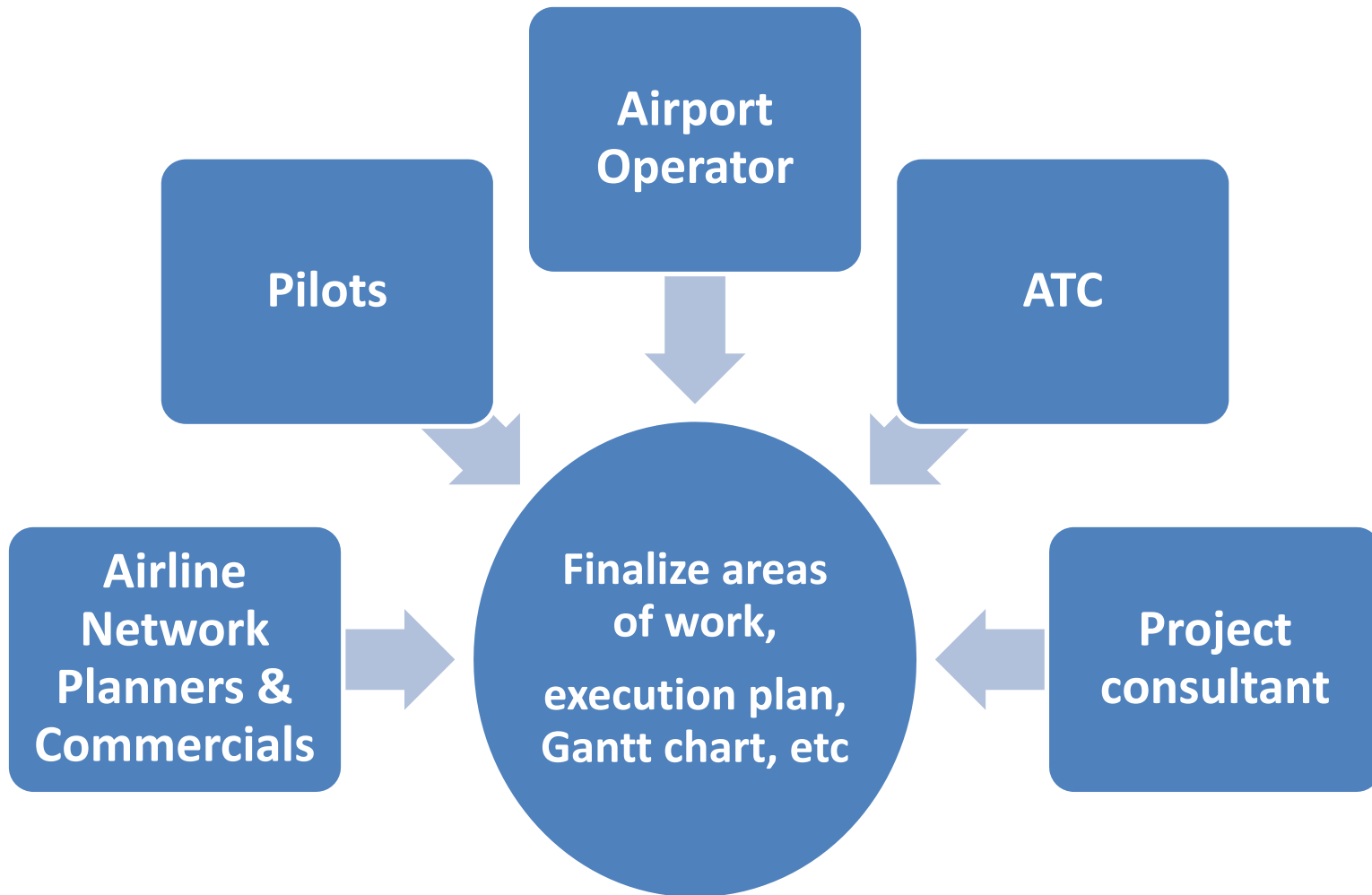


# **Collaborative approach & Stakeholder involvement**

# Stake holder involvement



# Planning



# Optimal decisions

- To carry out maintenance work during night.
- To carry out the work during the day with displaced threshold.
- Full closure for 6 hours during day.

	Option 1: Night Maintenance - full closure for 7 hours for 70 calendar days of work.		Option 2: Day Maintenance - displaced threshold. 68 Days (47 days full closure + 21 days with displaced THR).		Option 3- Day maintenance - full closure for 7 hours for 55 calendar days of work.	
<u>Key criteria</u>	Advantages	Disadvantages	Advantages	Disadvantages	Advantages	Disadvantages
Operational	<ol style="list-style-type: none"> <li>1. Impact of aircraft movements and passengers would be less than other options.</li> <li>2.</li> </ol>	<ol style="list-style-type: none"> <li>1. Huge impact on resources (Boarding gates, Baggage belts, Check in counters, SHA, etc.).</li> <li>2.</li> </ol>	<ol style="list-style-type: none"> <li>1. Total Impact on number of aircraft movements and passengers would be lesser as compared to</li> </ol>	<ol style="list-style-type: none"> <li>1. Dissemination of declared distances by ATC &amp; D Ops.</li> <li>2. <u>Rwy</u> Take-over and Hand-over</li> </ol>	<ol style="list-style-type: none"> <li>1. The take-over and hand-over procedures will be smooth.</li> </ol>	<ol style="list-style-type: none"> <li>1. Resource availability before closing and after opening will be a</li> </ol>

# Preparation

## DGCA

- Regulatory approvals

## Airport Safety

- Risk assessments
- Safety trainings
- Nodal coordinating agency

## Airport operations

- Trials & preparations
- Logistics & coordination.

## Pilots

- IAL procedures
- Rwy Safety measures.

## ATC

- AIS publication
- Runway Capacity enhancement

# Preparation

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- Revised IAL procedures.
- Trials on Displaced Threshold operations.
- Briefing to Pilots & ATC.
- Safety trainings & briefings to all involved.
- Slot management & Network alteration.
- Runway capacity studies based on ROT.
- Augment GHA infrastructure.

# Execution

- Full length → Displaced Threshold Ops → Full length
- Monitoring OLS close to RESA.
- Temporary PAPI.
- Distance To Go Markers.
- QC procedures during relaying.
- Multiple Runway inspections on completion of work.



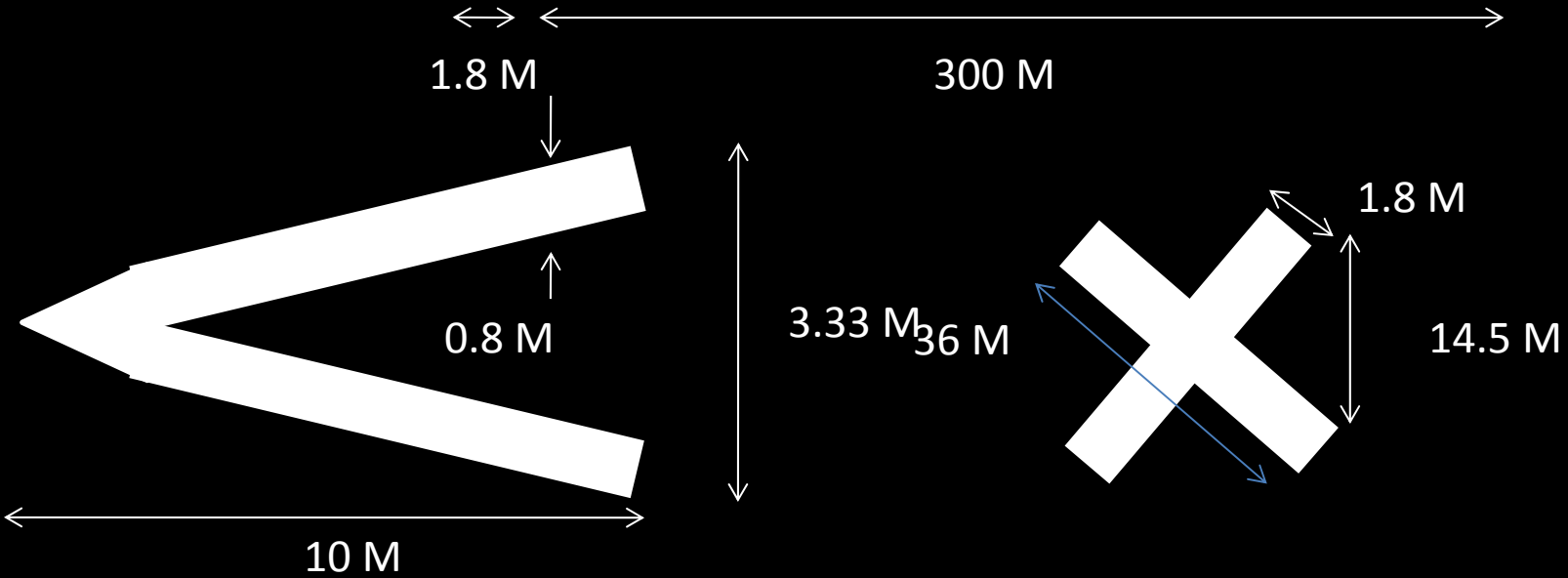
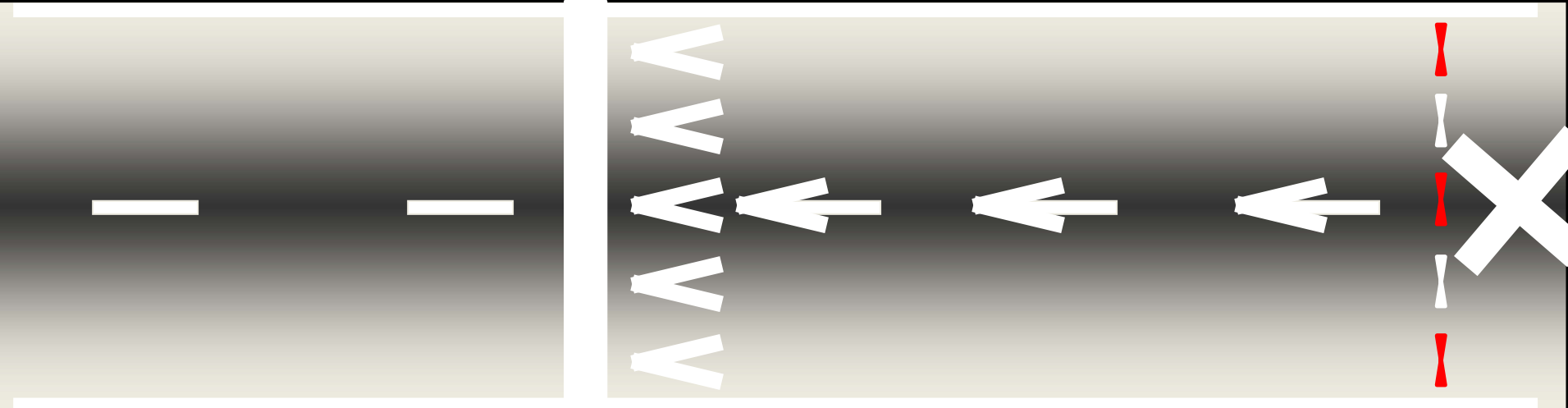
# Evaluation

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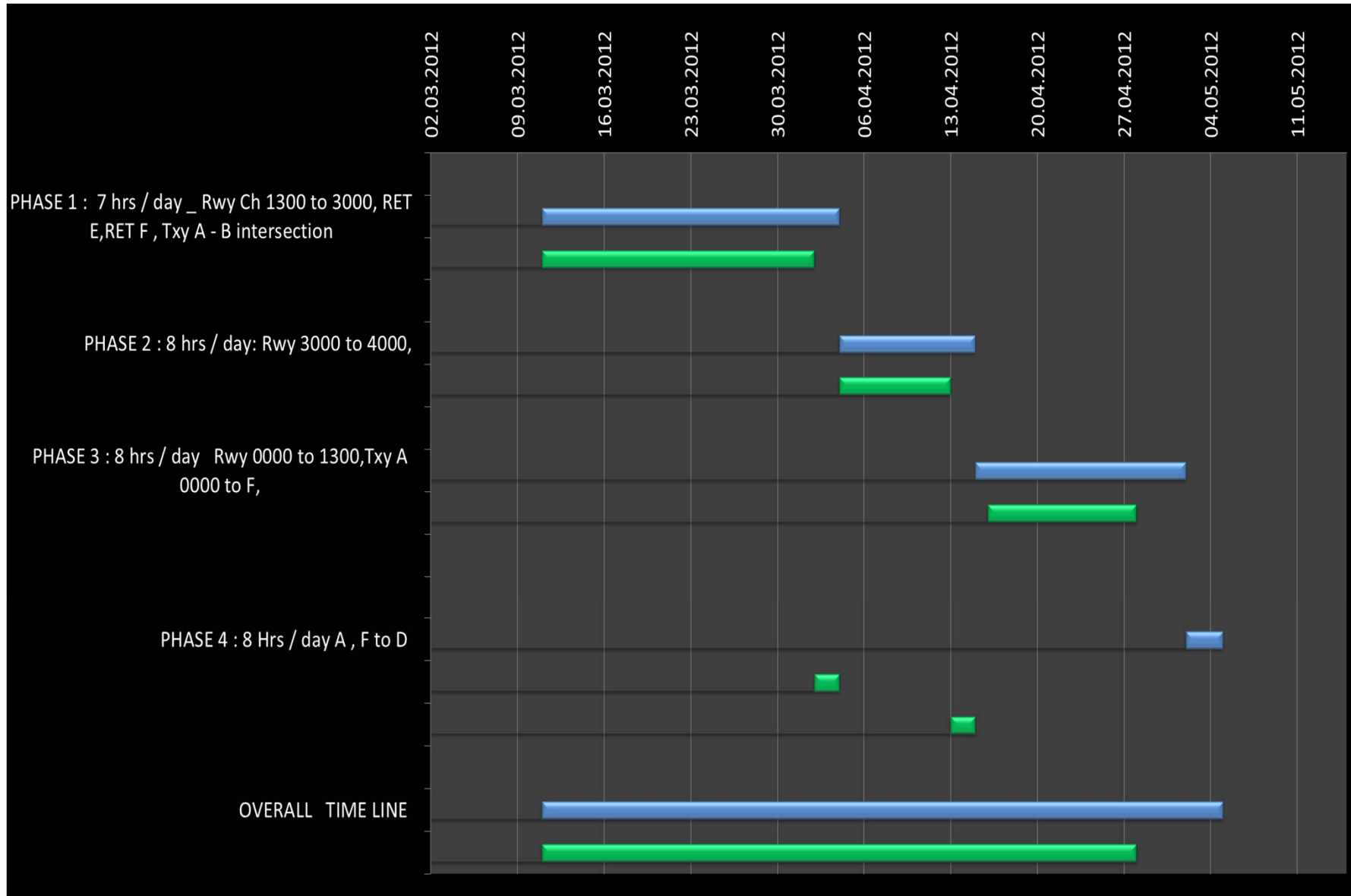


Inspection of Relayed runway surface by RST

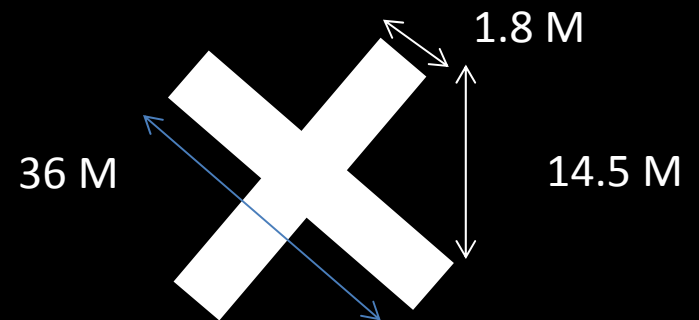
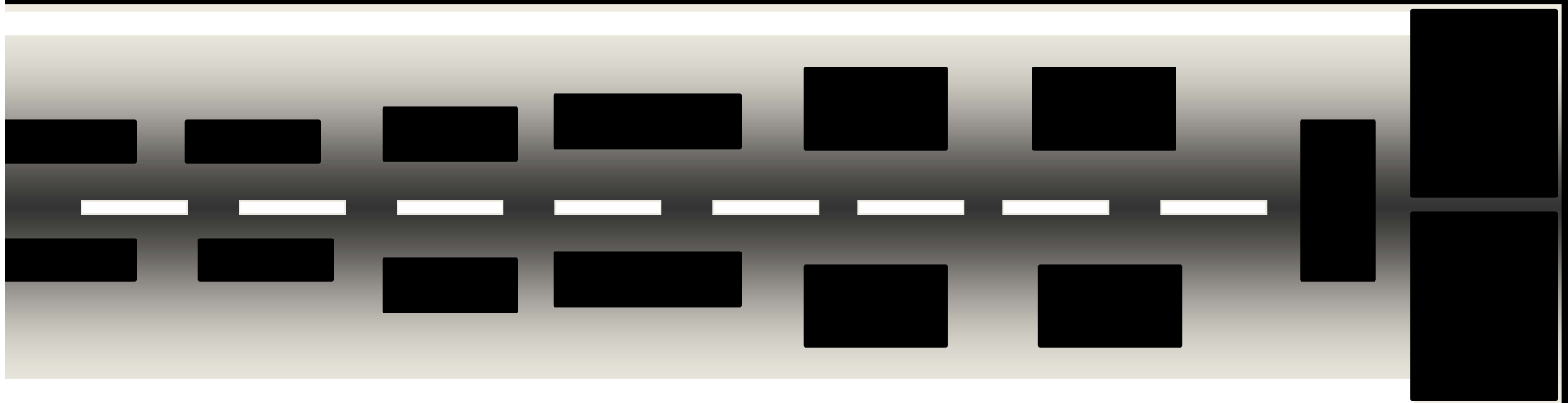
# TEMPORARILY DISPLACED THRESHOLD MARKING



# Schedule of Execution

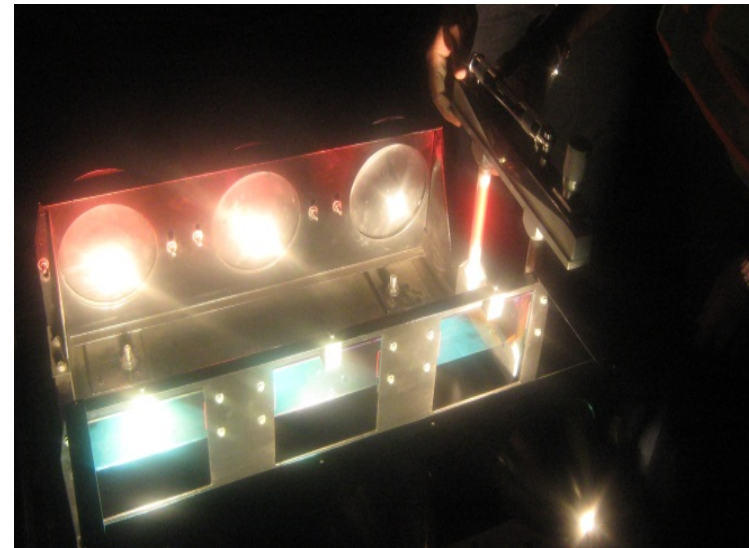


# TEMPORARILY DISPLACED THRESHOLD MARKING



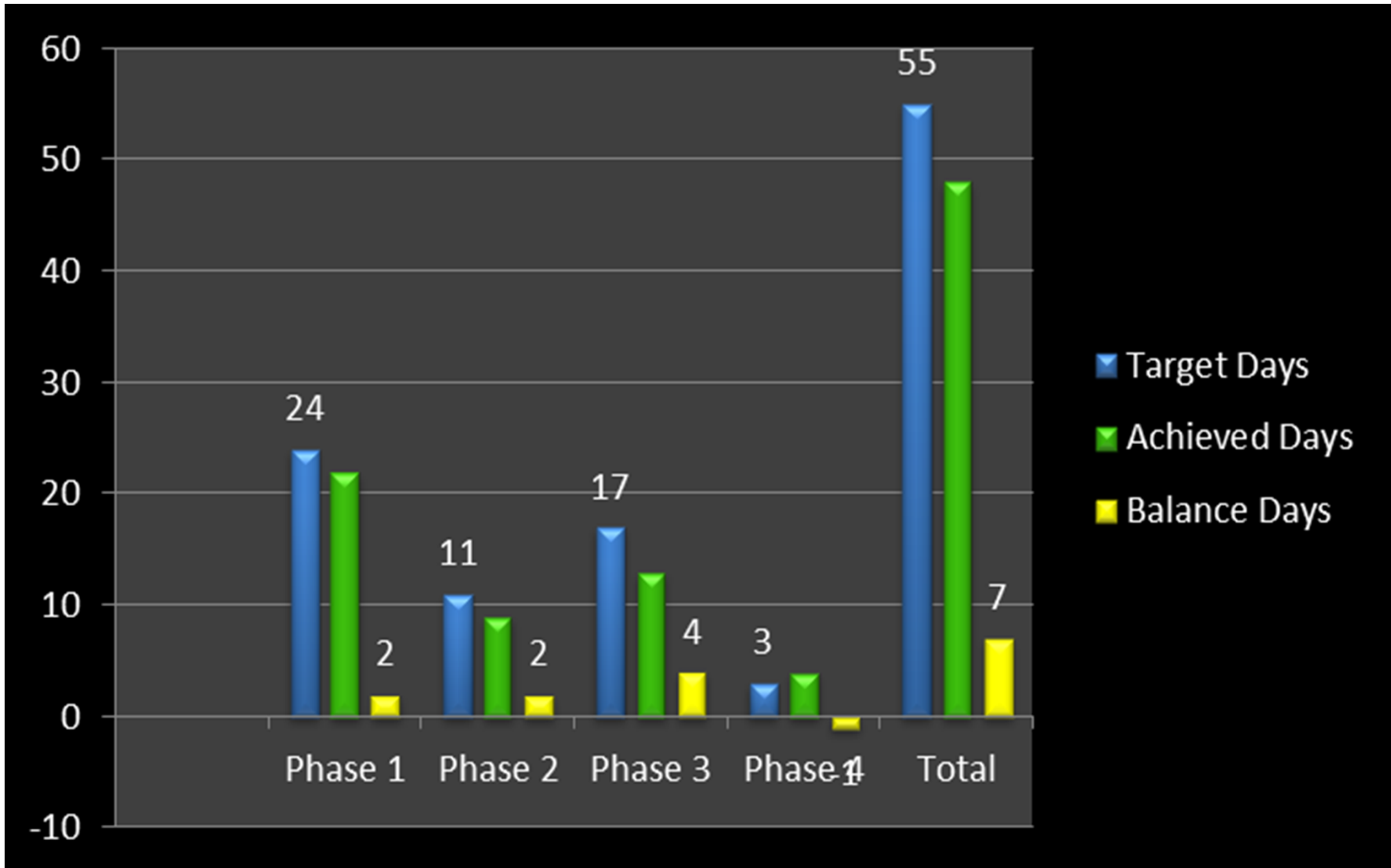


Distance To Go Markers ([DTGM](#))



Temporary PAPI unit

# Total days of work execution



# Conclusion



- Lessons learnt were captured and shared with all concerned and the regulator.
- Preventive maintenance completed within stipulated time without any compromise on operational safety & passenger inconvenience.

**Due to the collaborative approach followed**

**&**

**involvement of all the stakeholders.**

THANK YOU

