Investment Decision Making at GNI

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IAM Knowledge Sharing Event
22-10-2019
Introduction

Gas Networks Ireland

- Regulated Business
- Maturing Network
- CAPEX – Refurbishment and Network development
- ~€600m over 5 years interval
- ISO 55001 accredited business
- Next Regulatory phase commences in 2022
Presentation Overview

Journey
- Investment decision making development strategy.
- Where we landed and why.
- Future Development

Outcome (to date)
- Review of the application currently under development
As part of the Asset Management journey, GNI are moving from expert judgement to more quantitative based investment decision support.

In 2018 GNI initiated a process of determining the business solution scoping and implementation approach.

Completed analysis on:
- Detailed understanding of the business requirements,
- Current business data capabilities,
- Process scope and organisational alignment.

GNI reviewed the key market leaders currently available.

Developed scenarios for the different solutions.

Timing was a key factor in the solution chosen due to impending regulatory price control.
Gap Analysis and System Integration

Asset Investment Portfolio Planning

Project Portfolio Planning

Gap Analysis and System Integration

Asset Understanding & Modelling

Project Identification & Selection

Project Definition & Scoring

Project Evaluation, Ranking & Prioritisation

Programme Definition and Contracting

Programme Delivery & Management

Programme Review

Key:
- Primary Flow
- Secondary Flow

IAC Gate 1

IAC Gate 2

IAC Gate 3

IAC Gate 5

Project Changes

Ongoing Actuals (Timing, Quantity and Costs) from Delivery

Revision to Projects due to Delivery Necessities

Revision to Required Projects due to Delivery Necessities

Improved Understanding of Asset and Intervention Behaviour
Scope of Delivery Phases

Where we are

Where we want to go
Phased implementation approach was best to achieve the goals of:

- Reducing implementation risk,
- Meeting the timing requirements of the business, and
- Moving business towards “full” implementation in future.
Phased Implementation Approach

- Additional delivery work is required in non-functionality areas

**Governance**
- Institutions
- Mechanisms
- Relationships
- Processes
- Monitoring

**People**
- Culture
- Skills
- Training
- Organisational design
- Roles

**Process**
- Business process
- Responsibilities
- KPIs

**Analysis**
- Tools
- Skills
- People

**Data**
- Availability
- Structure
- Definition
- Cleansing
- Capture

**Technology**
- Architecture
- Systems
## Investment Prioritisation Application (IPA)

### Phase 1 - Justification and prioritisation

- **Asset Condition**
  - Division of the asset base (investment portfolio) by type and condition
  - Development of asset condition curves.

- **Risk Analysis**
  - Analyse asset failures using Boolean logic in line with QRA type methodology
  - Converts asset failure into financial cost based on soft benefits

- **Cost/Benefit Analysis**
  - Using discounted cash flow analysis to determine the ranking and time of investment.

### Phase 2 - Delivery

- **Portfolio analysis**
  - Review delivery constraints
  - Determine resource plan
  - Optimise delivery plan
Within the IPA, programmes will be divided into projects made up of Cohorts and Tranches.

Cohorts - Assets by similar type.

Tranches - Assets of similar condition within Cohorts.

Projects are what the IPA will justify and prioritise.
Asset Condition

• The assets within each activity will be of similar type and therefore share a similar failure curve.

• The curves are generated from a failure rate, converted to a probability of failure and finally to a probability of first failure within the year (shown below).

• This POFF is converted to a financial impact through Event Tree Analysis.
Cost Benefit Analysis

- Once the cost of the POFF/yr is determined a cash flow model of the assets future can be developed.
- Shown is the net cash flow, projected forward and discounted.
- This provides the point in time when the cash flows reaches zero (benefits = investment) and the point in time that gives the greatest benefits for the cost.

Curves for demonstration purposes only
Portfolio Management (Phase 2)

- Reviews the resources and dependencies required for each activity.
- Constraints impeding delivery are highlighted.
- Determines what can be delivered.
- Potential to expand beyond current price controls to feed into the LTSIP.
Questions