Innovation Strategy & Guidelines

26/09/19

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Innovation in TII

What is Innovation?

Innovation is

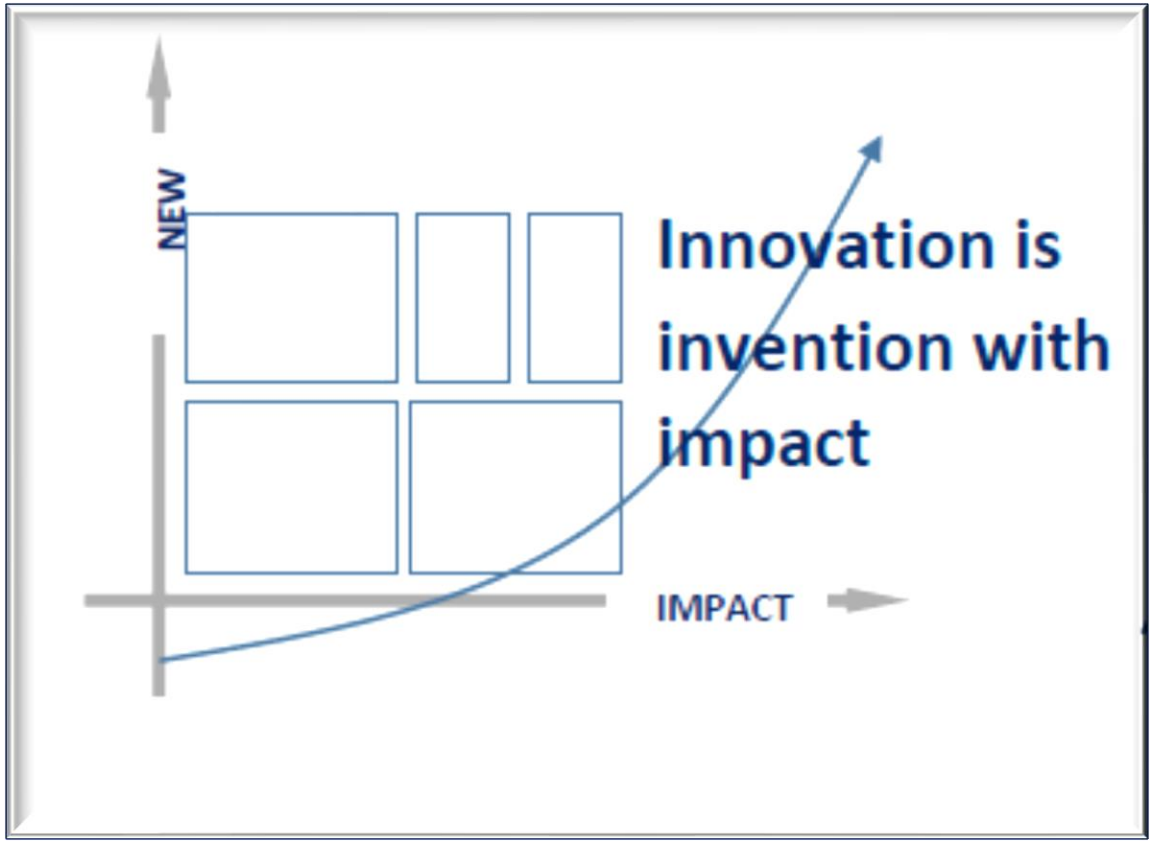
the process

of creating value by

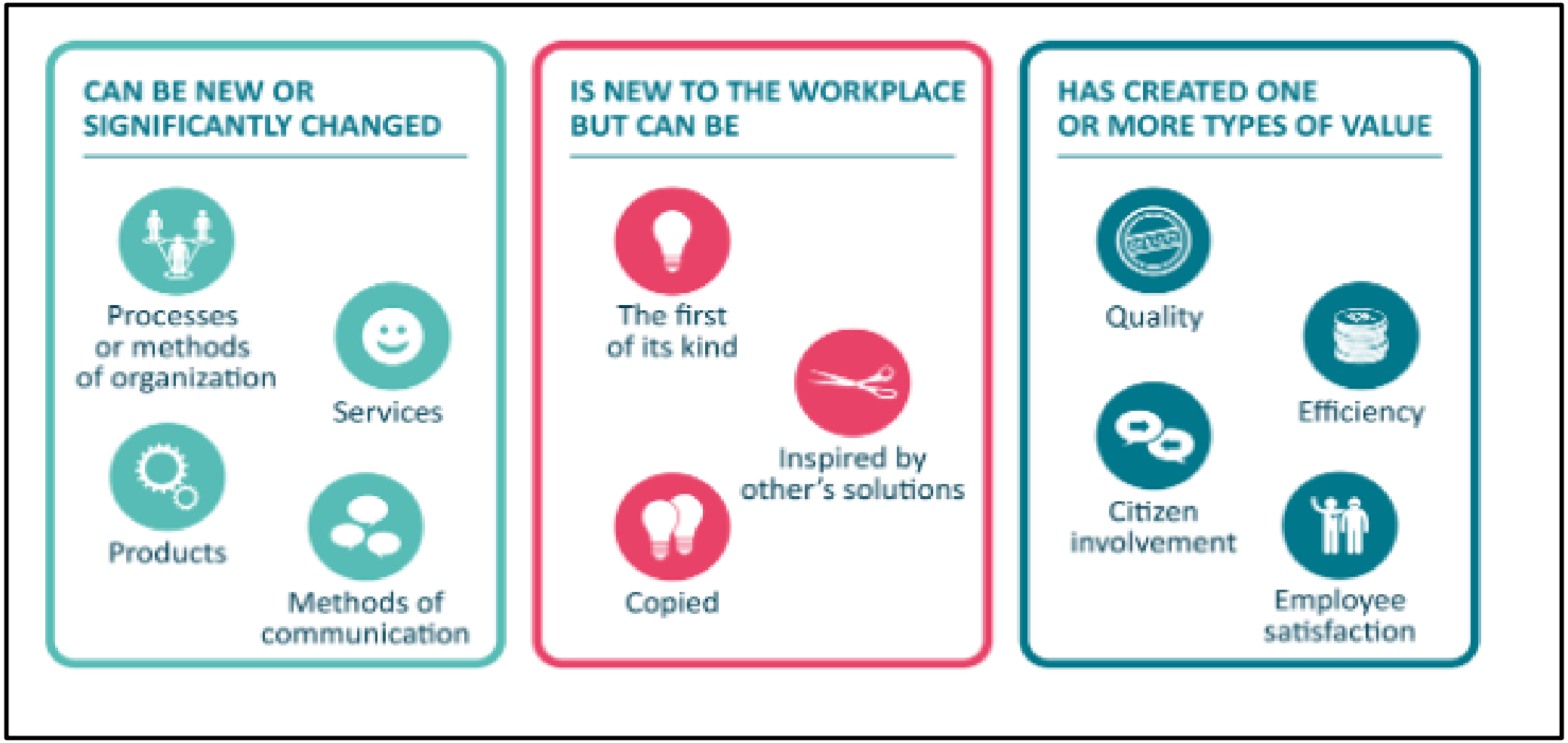
applying novel solutions

to

meaningful problems.



Public Sector Innovation



Drivers of Innovation

PS2020 Action 6: “promote a culture of innovation in the public service”

Ireland 2040: requires innovation to support the aims of the national planning framework

OECD Observatory of Public Service Innovation outlines core skill frameworks,

ISO Standard 56002: guidance on how to capture ideas, test them effectively and manage the risks and opportunities associated

OECD – Core Skills

Iteration:

incrementally and experimentally developing policies, products and services

Data literacy:

ensuring decisions are data-driven and that data isn't an after thought

User centricity:

public services should be focussed on solving and servicing user needs

Curiosity:

seeking out and trying new ideas or ways of working

Storytelling:

explaining change in a way that builds support

Insurgency:

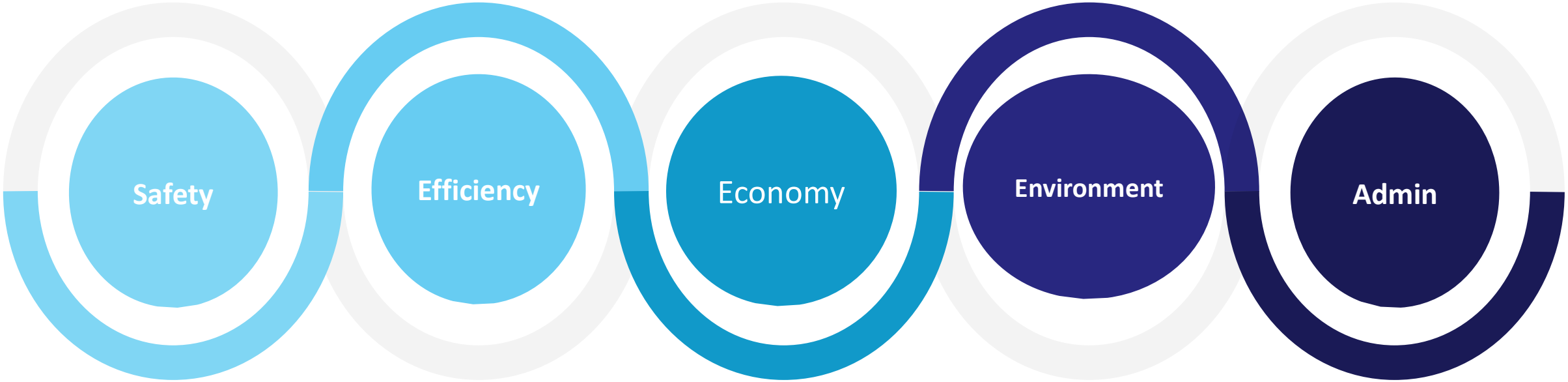
challenging the status quo and working with unusual partners

TII Objectives of Innovation

Using technology to promote and ensure safe roads and light rail systems

Protecting national roads and light rail that are strategically important to the economy

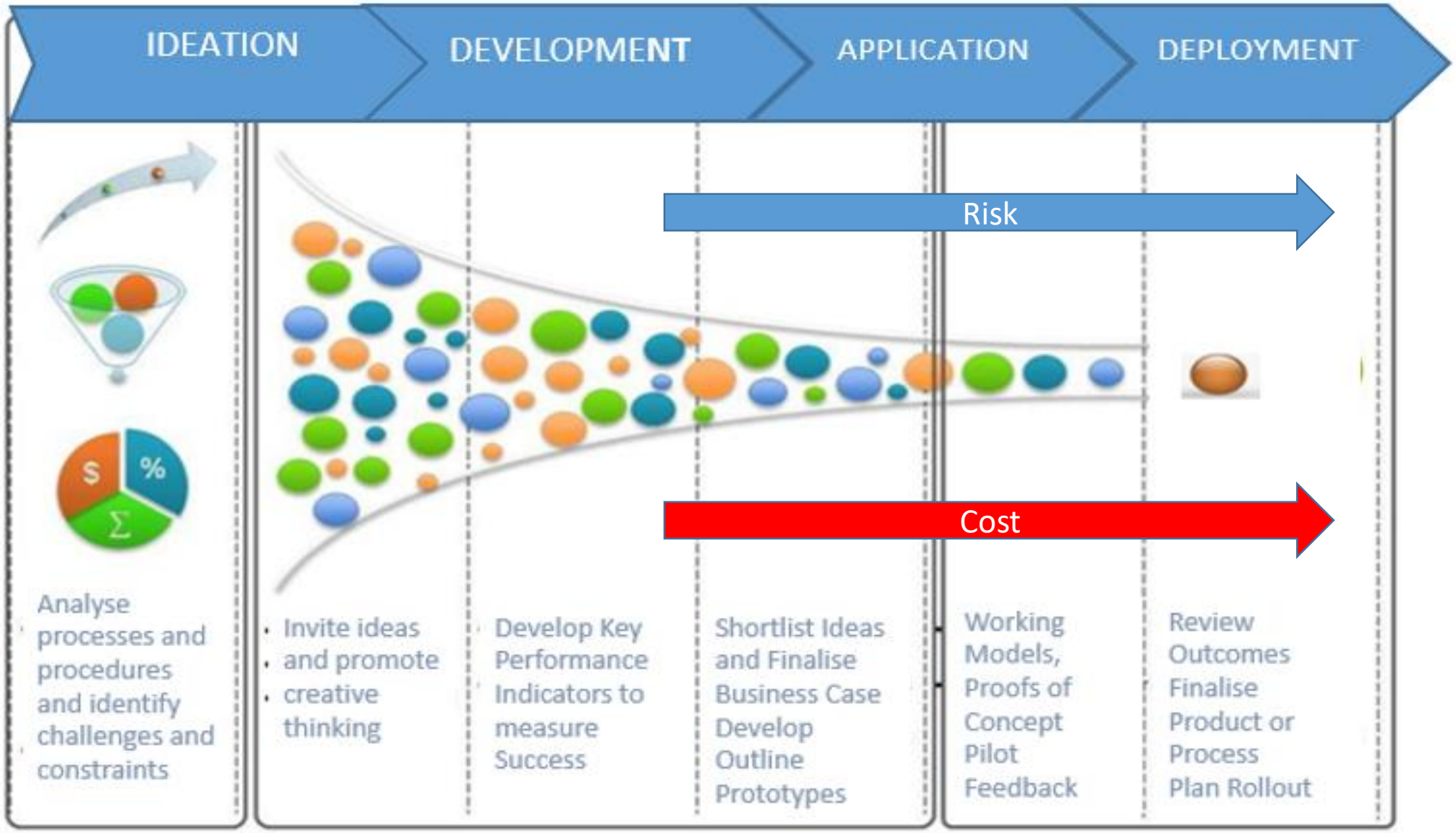
Implementing clear and effective practices to deliver value to all stakeholders and improving efficiencies



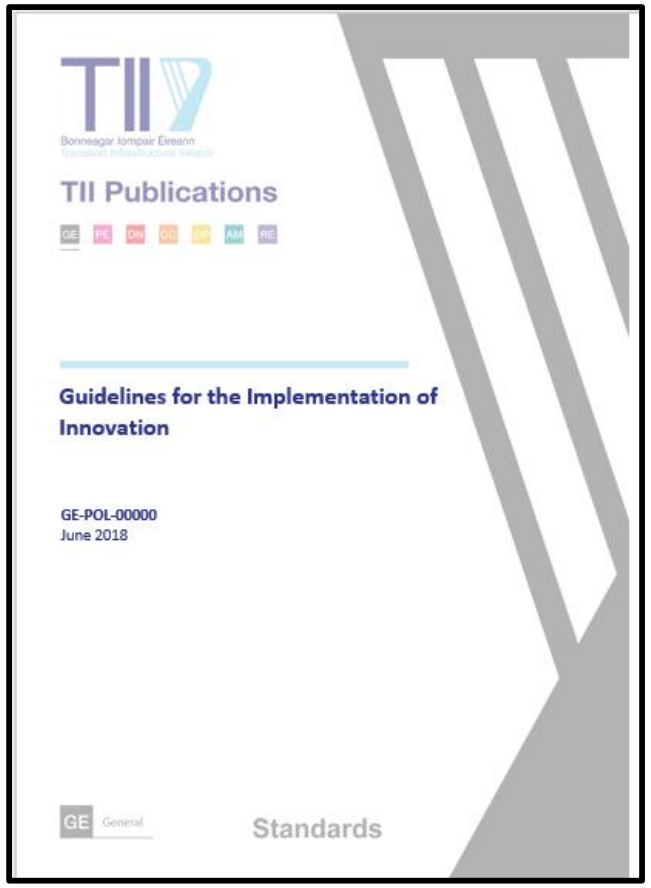
Improving network operations, communication, budget management and contractual arrangements

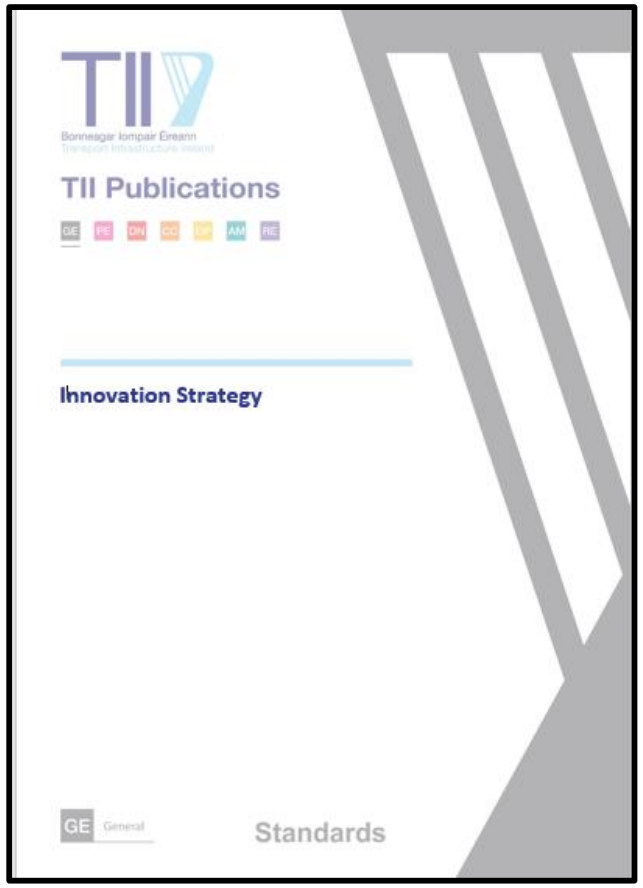
Tackling greenhouse gas emissions and effecting reductions

Innovation Process



TII Innovation Documentation





TII Innovation Strategy

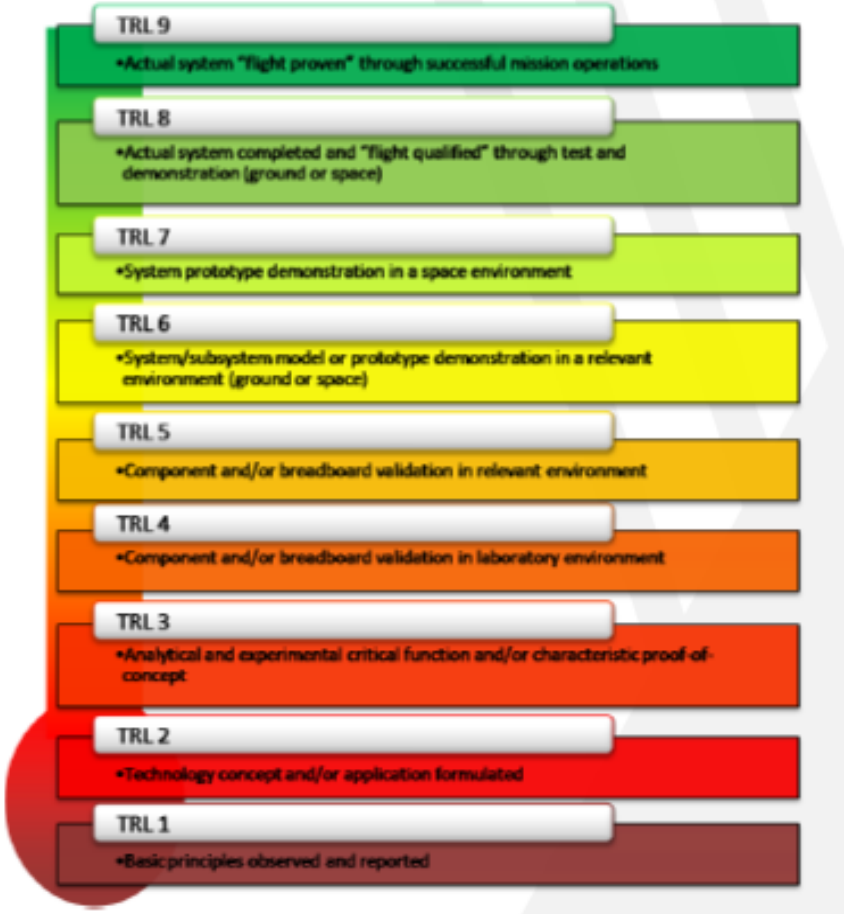
Place Innovation at the core of all its activities and embed it as a culture within its operational environment :

- Create a clear process for the generation, incubation, development and implementation of innovative solutions
- Deliver Management System that supports the process over its entire lifecycle
- Empower staff to meaningfully engage and deliver innovation
- Provide clear guidelines
  - Ensure transparency around innovation deployments
  - Ensure efficiency by cost benefit analysis
  - Manage risk through risk profiling

Innovation Guidelines

TRLS

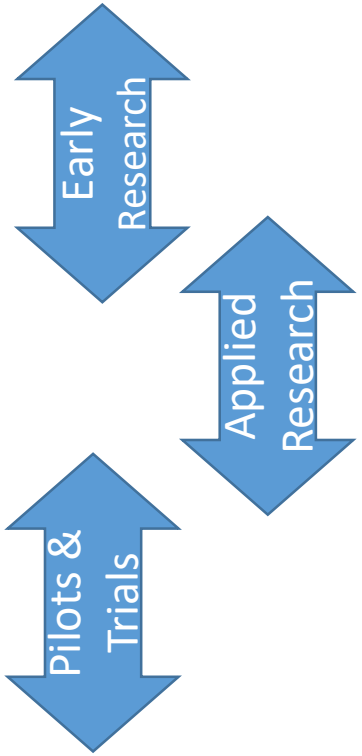
- TRLs developed by NASA in the 1960s
- Designed to estimate the technology maturity (or deployment readiness) of newly developed technologies for the aerospace industry
- 9 levels as follows:



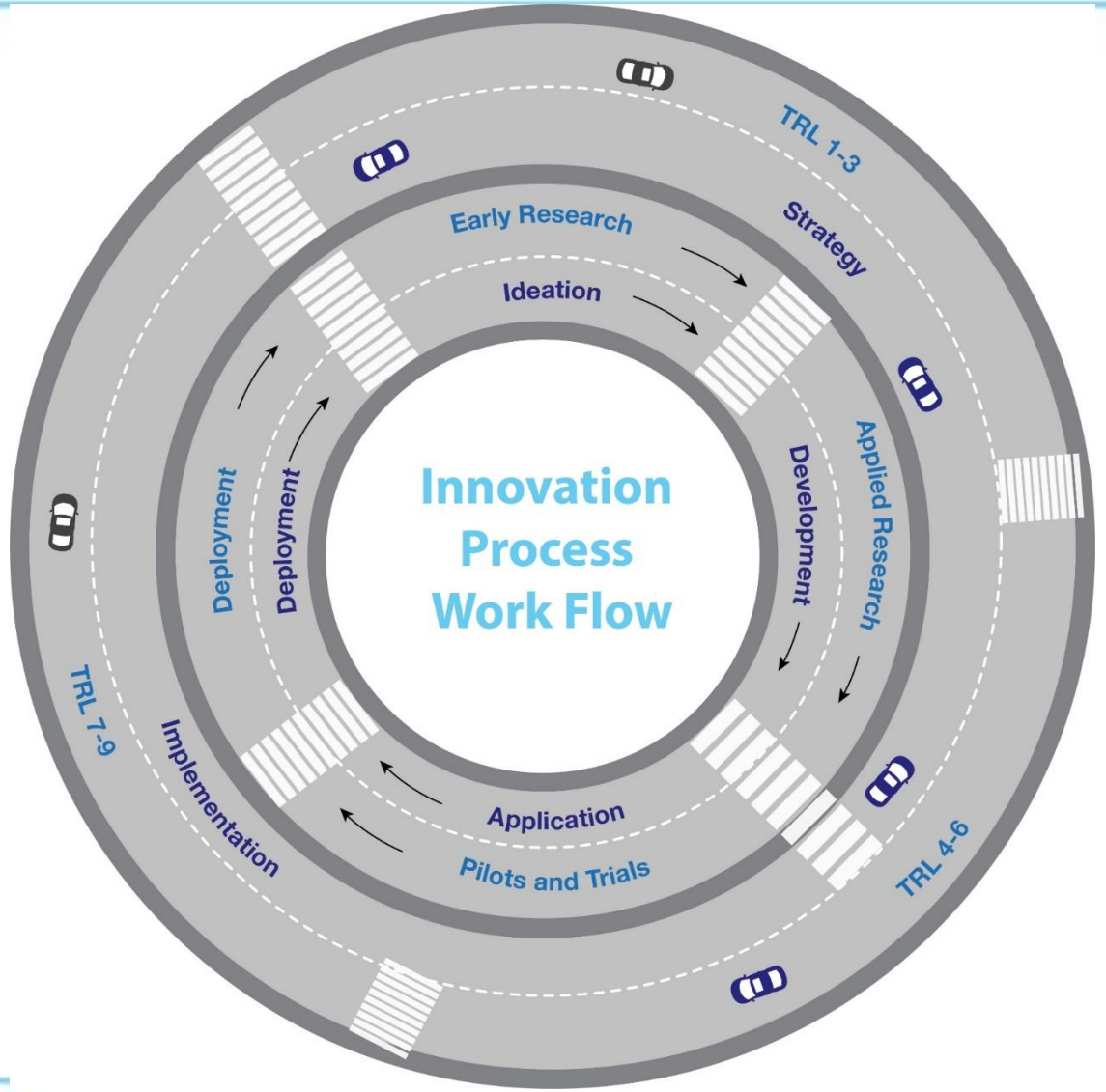
TRL – Technology Readiness Level

TRL	Solution Function Defined	KPIs for solution provisionally defined	Component Specification	Laboratory Testing	CRS and CBS	System Testing	Prototype Testing	Monitored Deployment	Risk Acceptable Deployment	Evidence required for moving between TRLS
1	■									N/A
2	■	■								Further contextual evidence and solution description are provided, KPIs are provisionally defined, and possible development trajectories are provided, including funding
3	■	■	■							Breakdown of system components is provided, functional specifications is defined, laboratory testing is being designed, more detailed risk assessment
4	■	■	■	■						Laboratory testing is taking place, SPIs for the solution are verified and validated, conformance to relevant standards is demonstrated, route to market is summarised, and preparations are being made for production
5	■	■	■	■	■					CRB and CRS are defined, technical specifications is developed, system-level integration is being defined, performance is being tested and production methods are validated
6	■	■	■	■	■	■				Testing is performed in operations-representative environment, financial risk management procedures are developed
7	■	■	■	■	■	■	■			Prototypes are developed, testing is taking place in a live environment to verify its functionality, deployment parameters are being developed and solution performance is approved
8	■	■	■	■	■	■	■	■		The solution is being deployed under control to exclude anomalies and capture any situational performance issues, the system is ready and qualified for live deployment
9	■	■	■	■	■	■	■	■	■	The solution is proven and fit for purpose

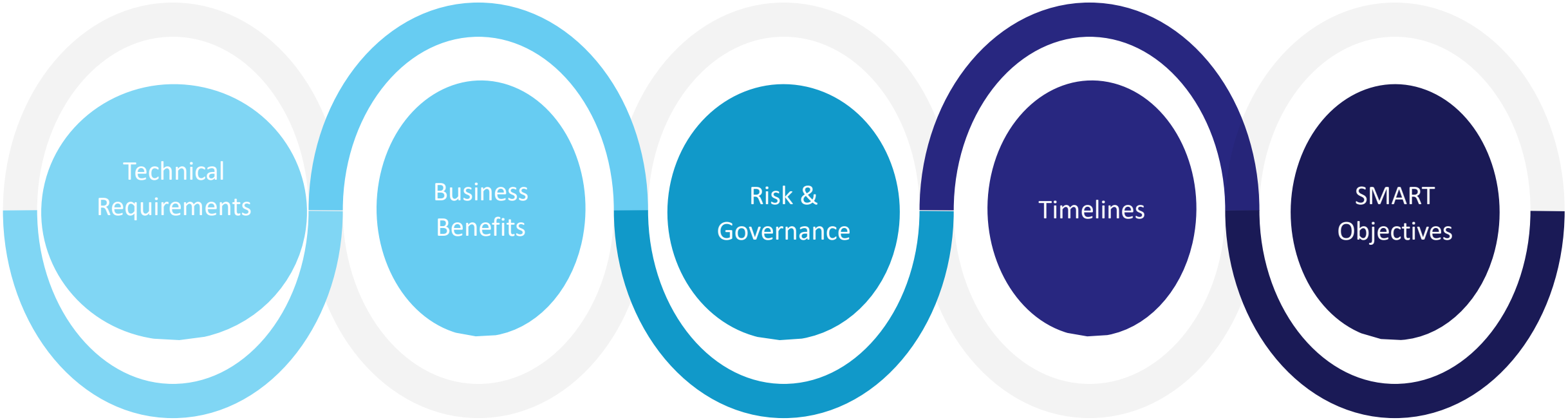
TRL & TII Systems



1. Fundamental Research
2. Applied Research
3. Research and Validation
4. Laboratory Testing
5. Isolation Representative Testing
6. System-based Representative Testing
7. System-level Pre-production Controlled Demonstration
8. System-level Production Verification
9. Proven Solution Deployment

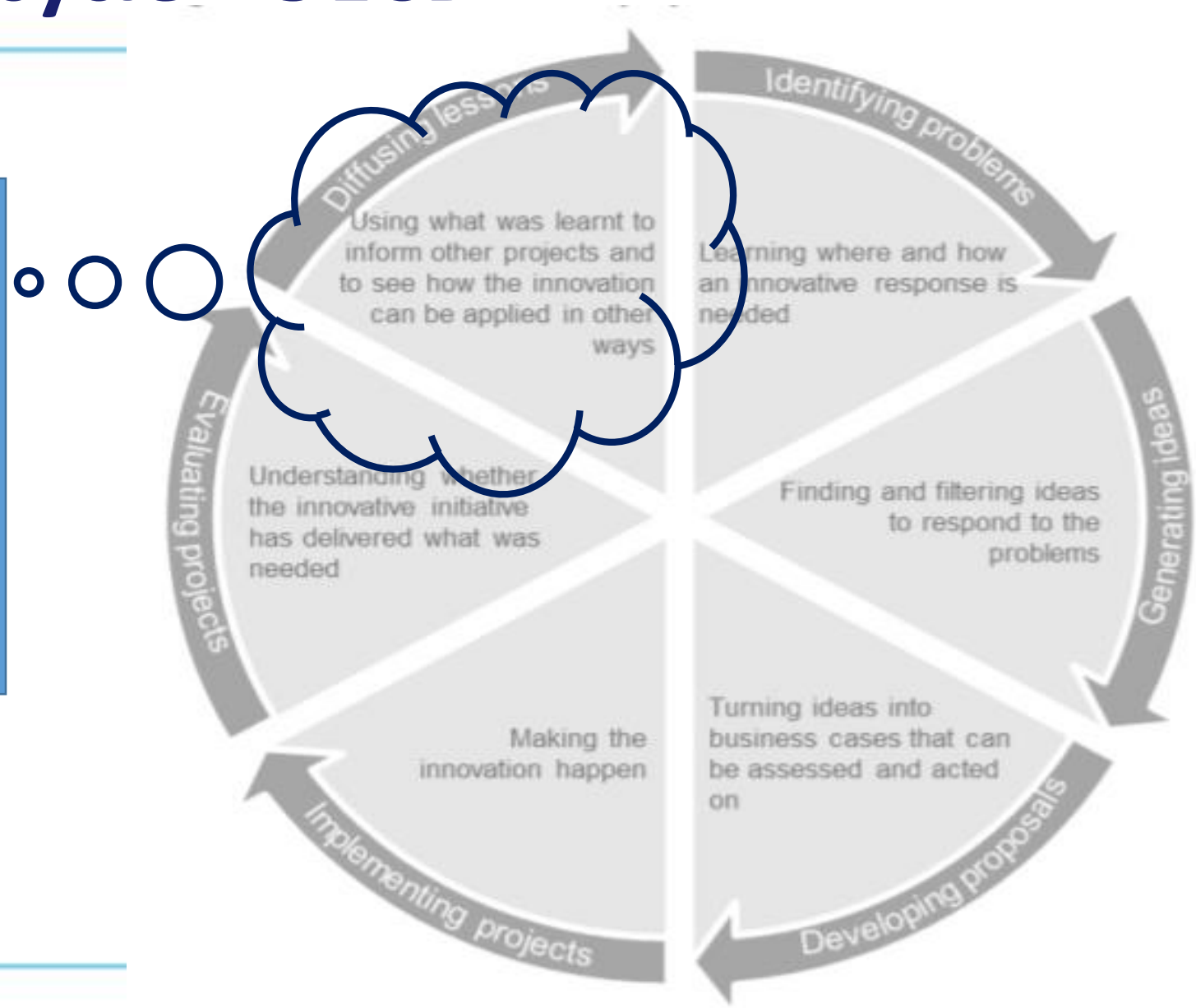


Implementation Plan

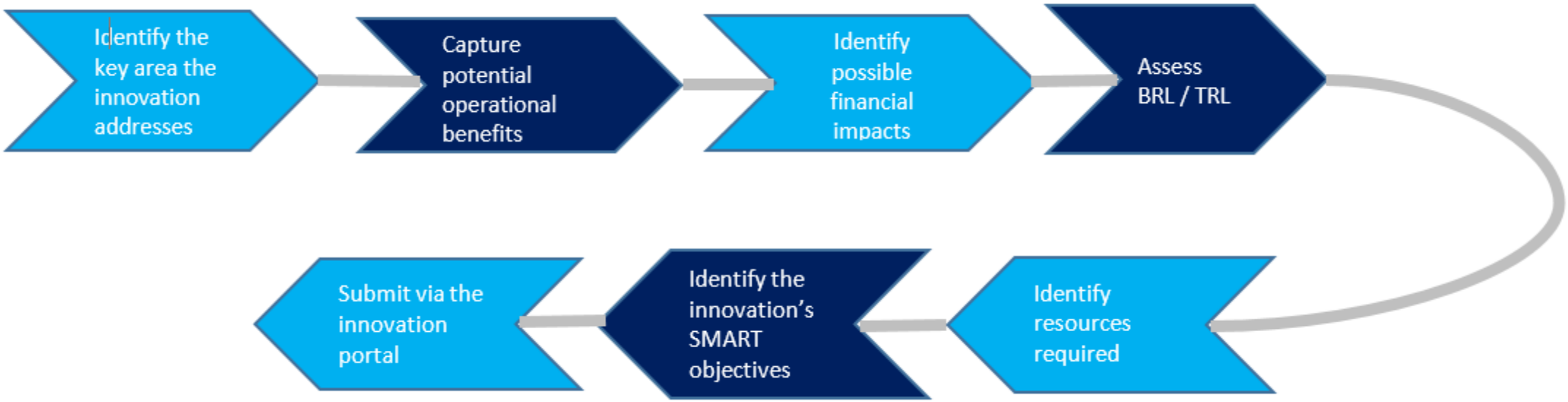


Innovation Lifecycle - OECD

Using what was learnt to inform other projects and see how the innovation can be applied in other ways

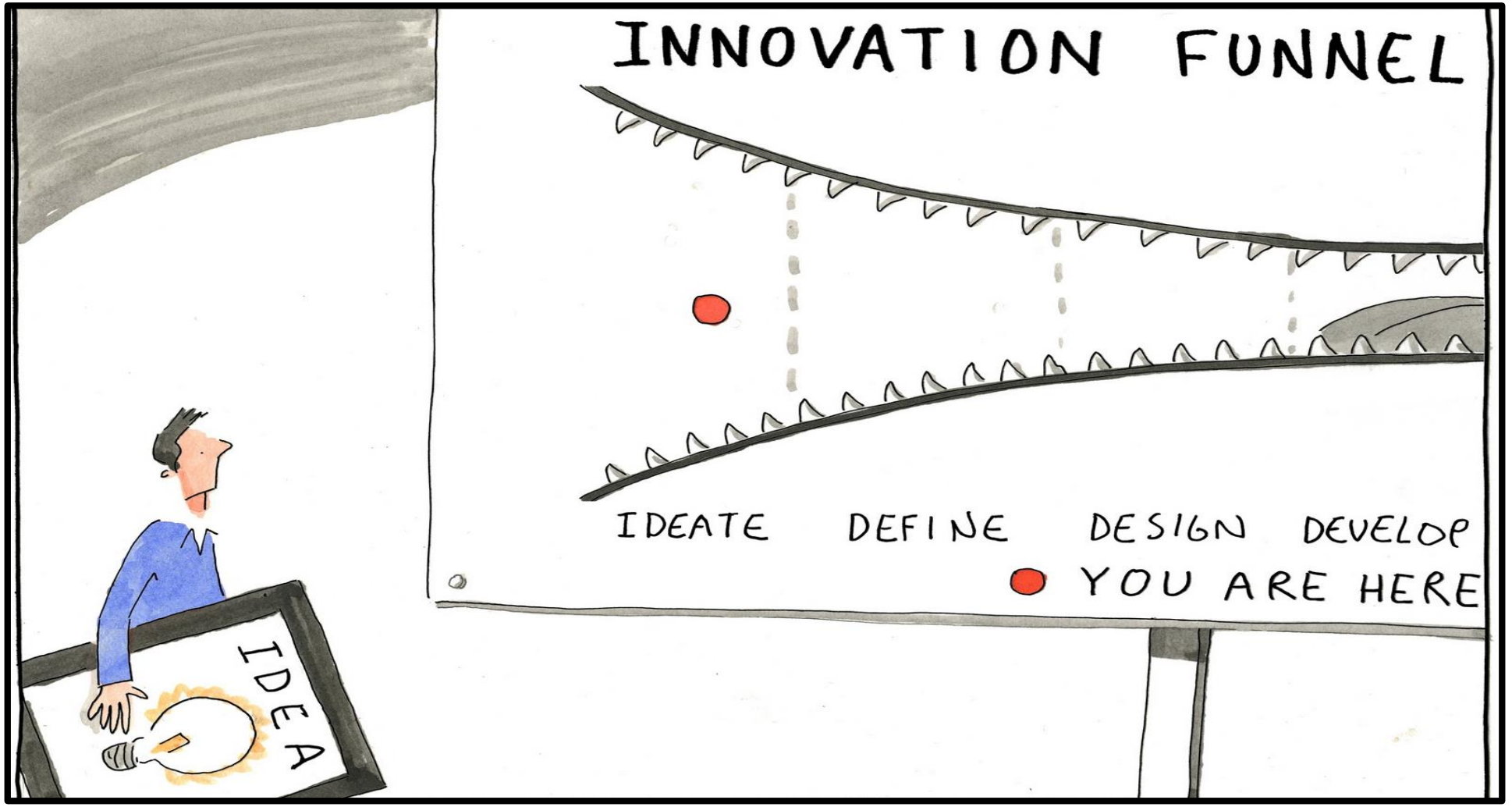


Ideas Workflow



Innovation Portal

User Friendly Systems



Positive Outcomes

Tom Casey
Head of Pavements, Construction Materials & Innovation
Network Management
Tel: +353 1 646 3671
email: tom.casey@tii.ie

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Bonneagar Iompair Éireann
Ionad Gnó Gheata na Páirce
Sráid Gheata na Páirce
Baile Átha Cliath 8
Éire, D08 DK10

Transport Infrastructure Ireland
Parkgate Business Centre
Parkgate Street
Dublin 8
Ireland, D08 DK10

www.tii.ie
info@tii.ie
+353 (0)1 646 3600
+353 (0)1 646 3601