



# Project Management Principles

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[Olivier ESNAULT](#) 2024

# Delivery models can rely on 3 pillars



Waterfall

Agile Delivery

DevOps

Internal  
workforce

Time &  
Material

Fixed Price

(Target) Operating  
Model

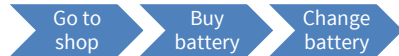
# 3

**What is a project?**

# What is a Project / Program ?



Scope  
Resources  
Specific goal



**Barracuda (Suffren) Class**  
Nuclear Powered Attack Submarine

Provisional illustration based on analysis of Open Source Intelligence (OSINT)

Labels in diagram: Four torpedo tubes, Non-penetrating masts including 'periscopes', Control Room with no periscope wells, smart tactical table, 10 multi-function consoles and integral operations room, PSM3G Special Forces Swimmer Delivery Vehicle, Special Forces hangar with lock-out chamber, Pump jet, 'X' rudders, Raft-mounted propulsion space, Reactor compartment, Flank Array Sonar, Batteries, Export SM39 anti-ship missile, Sonar, NCM land-attack cruise missile, FG-29.

**Organigramme d'entreprise de fabrication**

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graph TD
    Shareholder --> Board
    Board --> FinancialCenter[Financial Center]
    Board --> LegalDepartment[Legal Department]
    Board --> Director
    Director --> ProductionDepartment[Production Department]
    Director --> InvestmentDepartment[Investment Department]
    Director --> MarketingDepartment[Marketing Department]
    Director --> TechnicalDepartment[Technical Department]
    Director --> HumanResourcesDepartment[Human Resources Department]
    ProductionDepartment --> ProductionPlanning[Production Planning]
    ProductionDepartment --> TechnicalIndustrialDesign[Technical / Industrial Design]
    ProductionDepartment --> Production[Production]
    ProductionDepartment --> QAManager[QA Manager]
    ProductionDepartment --> Maintenance[Maintenance]
    InvestmentDepartment --> ResearchDepartment[Research Department]
    InvestmentDepartment --> PlanningDepartment[Planning Department]
    InvestmentDepartment --> EngineeringDepartment[Engineering Department]
    MarketingDepartment --> BrandAdvertisingCreative[Brand / Advertising Creative]
    MarketingDepartment --> TradeMarketing[Trade Marketing]
    MarketingDepartment --> PromotionsMedia[Promotions / Media]
    MarketingDepartment --> PublicRelations[Public Relations]
    MarketingDepartment --> MarketAnalyst[Market Analyst]
    TechnicalDepartment --> ProductDesignDepartment[Product Design Department]
    TechnicalDepartment --> ResearchDevelopmentDepartment[Research / Development Department]
    TechnicalDepartment --> TechnicalAuditDepartment[Technical Audit Department]
    TechnicalDepartment --> CustomerServiceDepartment[Customer Service Department]
    HumanResourcesDepartment --> TrainingGroup[Training Group]
    HumanResourcesDepartment --> RecruitingTeam[Recruiting Team]
    HumanResourcesDepartment --> OfficeSupport[Office Support]
    HumanResourcesDepartment --> CompensationBenefits[Compensation & Benefits]
    
```

Company name/author

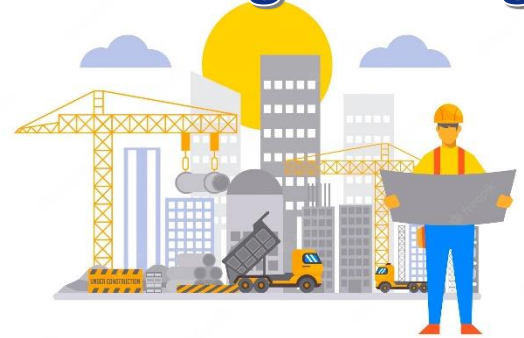
Monitoring Sys E&M

## Different types of projects

### Management



## Civil Engineering



### Manufacturing



Internal

# Different types of projects

## ➔ Structural works

### ➔ Industrial constructions

- ➔ Factories
- ➔ Warehouses,...

### ➔ Transportation infrastructures

- ➔ Roads
- ➔ Railways
- ➔ Bridges,...

### ➔ Hydraulic works

- ➔ Dams,
- ➔ Dykes,...

### ➔ Urban works

- ➔ Sewers

# Civil Engineering



# Different types of projects

## Management



### → Production of goods

- Cars
- Alarm clocks
- Submarines,...

### → Intangible products

- Software deployment
- Advertising campaign
- Olympiads organization,...

### → Services

- Move, relocation
- Promotional event,...

### → Changes

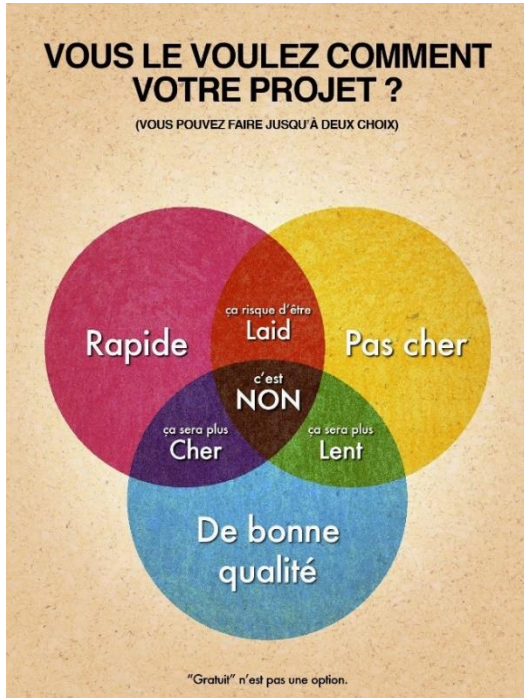
- Reorganization
- Post Merger Integration (PMI)

## Manufacturing



Internal

# Projects never succeed...



Hofstadter's Law: “A project always takes longer than you expect, even when you take into account Hofstadter's Law.”<sup>(1)</sup>



## ... whatever the domain

- ➔ In Feb 2019, the Standish Group reported that 83.9% of the projects in IT partially or completely failed <sup>(2)</sup>.
- ➔ Similar situation in Civil Engineering sector where there are many abuses <sup>(3)</sup> :

| Dépassements               | Routes   | Ponts et tunnels | Energie  | Voies ferrées | Barrages | Logiciels | Jeux olympiques |
|----------------------------|----------|------------------|----------|---------------|----------|-----------|-----------------|
| Dépassements budgétaires   | 20%      | 34%              | 36%      | 45%           | 90%      | 107%      | 156%            |
| Fréquence des dépassements | 9 sur 10 | 9 sur 10         | 6 sur 10 | 9 sur 10      | 7 sur 10 | 5 sur 10  | 10 sur 10       |
| Retards de livraison       | 38%      | 23%              | 38%      | 45%           | 44%      | 37%       | 0%              |
| Durée en années            | 5,5      | 8,0              | 5,3      | 7,8           | 8,2      | 3,3       | 7,0             |

Based on a sample of 258 transportation infrastructure projects worth US\$90 billion and representing different project types, geographical regions, and historical periods. In 2007.

# Project Management certifications and norms

| Organization  |   | Certificates / Norm   | # holders      |
|---|---|---|----------------|
| C International Project Management Association (IPMA)                           |  | IPMA levels D → A   | 0,3M           |
| C <a href="#">Project Management Institute (PMI)</a>                            |  | - Project Management Professional PMP<br>- Certified Associate in Project Management CAPM | 1,3M           |
| C AXELOS  |  | <a href="#">PRINCE2</a> Foundation, Practitioner  | 1,6M           |
| C ScrumAlliance   |  | Certified Scrum master, Certified Scrum Product Owner                                     | 1,2M           |
| C <a href="#">IASSC (International Association for Six Sigma Certification)</a> |   | Lean Six Sigma belt from white to black   | >3/4M ?        |
| N AFNOR (ISO)   |  | ISO 21500 Foundation, Lead Project Management, Lead Assessor                              | 24k+ standards |



# Appendix

# Table of Reference

## #3 What is a project ?

(A). Rooney, Paula (October 3, 2002), [Microsoft's CEO: 80–20 Rule Applies To Bugs, Not Just Features](#)

(B). [Human Development Report 1992, Chapter 3](#)

(1). [Hofstadter's law](#) on Wikipedia

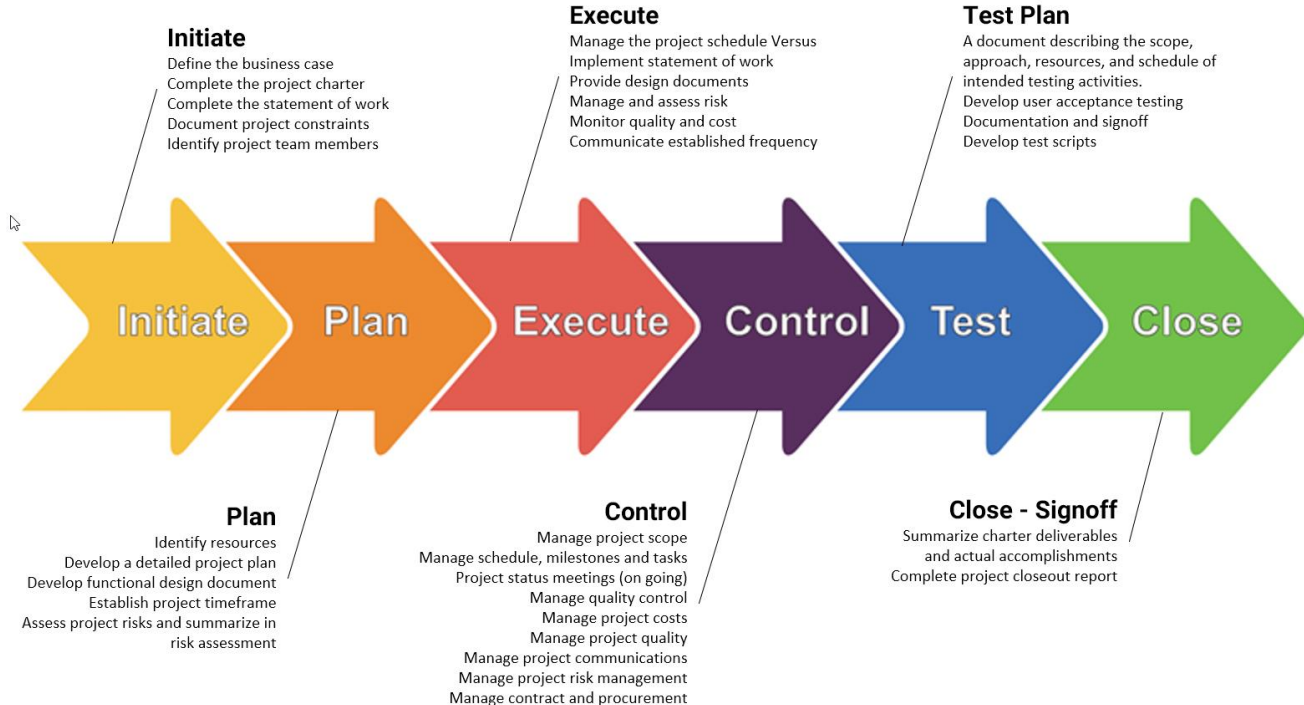
(2). [The Standish Group Reports 83.9% of IT Projects Fail](#)

(3). [Bent Flyvbjerg, Mette Skamris Holm et Soren Buhl, « Underestimating Costs in Public Works Projects: Error or Lie? »](#)

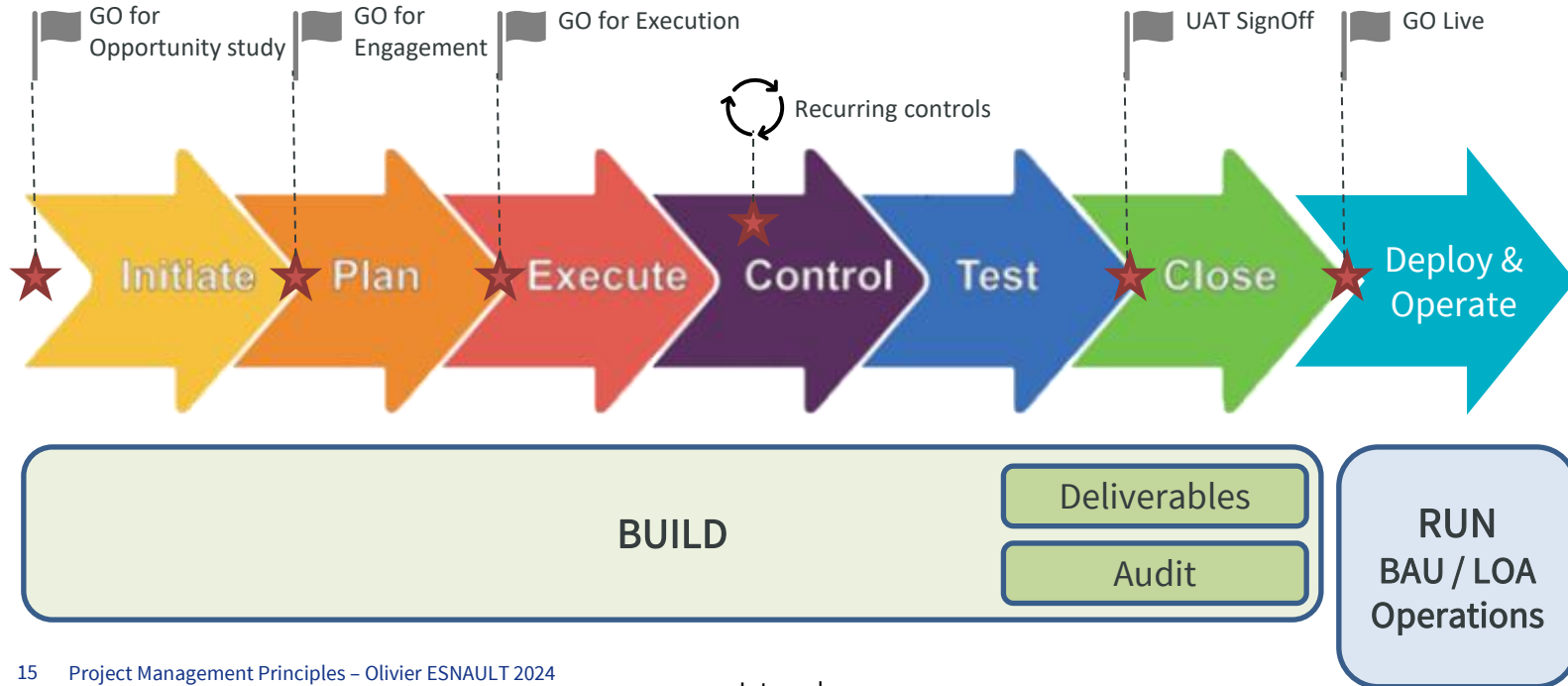
# 4.1

## Initiating a project

# Typical project's phases



# Typical project's phases and Gating Process



# Appendix



# French correspondance of covered concepts

## #4.1 Initiating a project

| Concept                       | French correspondance / usage   |
|-------------------------------|---|
| Full Time Equivalent: FTE     | Equivalent Temps Plein : ETP  |
| MSA: Master Service Agreement | <ol style="list-style-type: none"><li>1. Contrat Cadre</li><li>2. MSA</li></ol>               |
| SOW: Statement Of Work        | <ol style="list-style-type: none"><li>1. Contrat d'Application</li><li>2. SOW</li></ol>       |
| RFI: Request For Information  | Demande d'Information   |
| RFP: Request For Proposal     | <ol style="list-style-type: none"><li>1. Appel d'Offres</li><li>2. RFP</li></ol>              |
| NPV: Net Present Value        | <ol style="list-style-type: none"><li>1. NPV</li><li>2. VAN : Valeur Actuelle Nette</li></ol> |
| POC: Proof Of Concept         | POC   |
| MVP: Minimum Viable Product   | MVP   |

# French correspondance of covered concepts

## #4.1 Initiating a project

| Concept   | French correspondance / usage   |
|---|---|
| BCA: Business Case                                  | Business Case   |
| BAU: Business As Usual<br>LOA: Lights-On Activities | 1. Maintien en Conditions Opérationnelles (MCO)<br>2. Activités de fonctionnement |
| BCP: Business Continuity Plan                       | PCA : Plan de Continuité d'Activité   |
| DRP: Disaster Recovery Plan                         | PRA : Plan de Reprise d'Activité  |
| PMP: Project Management Plan                        | Plan projet   |