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# **Milan Integrated Water Service and Investment Strategy**

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# Document objectives

- **Presenting MM S.p.A.**, its history and the current scope of business
- **Describing** the main features of the **Integrated Water Service** of the **City of Milan**
- Describing the **regulatory IWS framework** in which MM operates
- Analyzing **planning procedures** and **investment planning policy** directives
- Highlighting recent **MM investment and financial strategy** with reference to IWS



# Agenda

## ❖ **Company Profile**

❖ Business Description

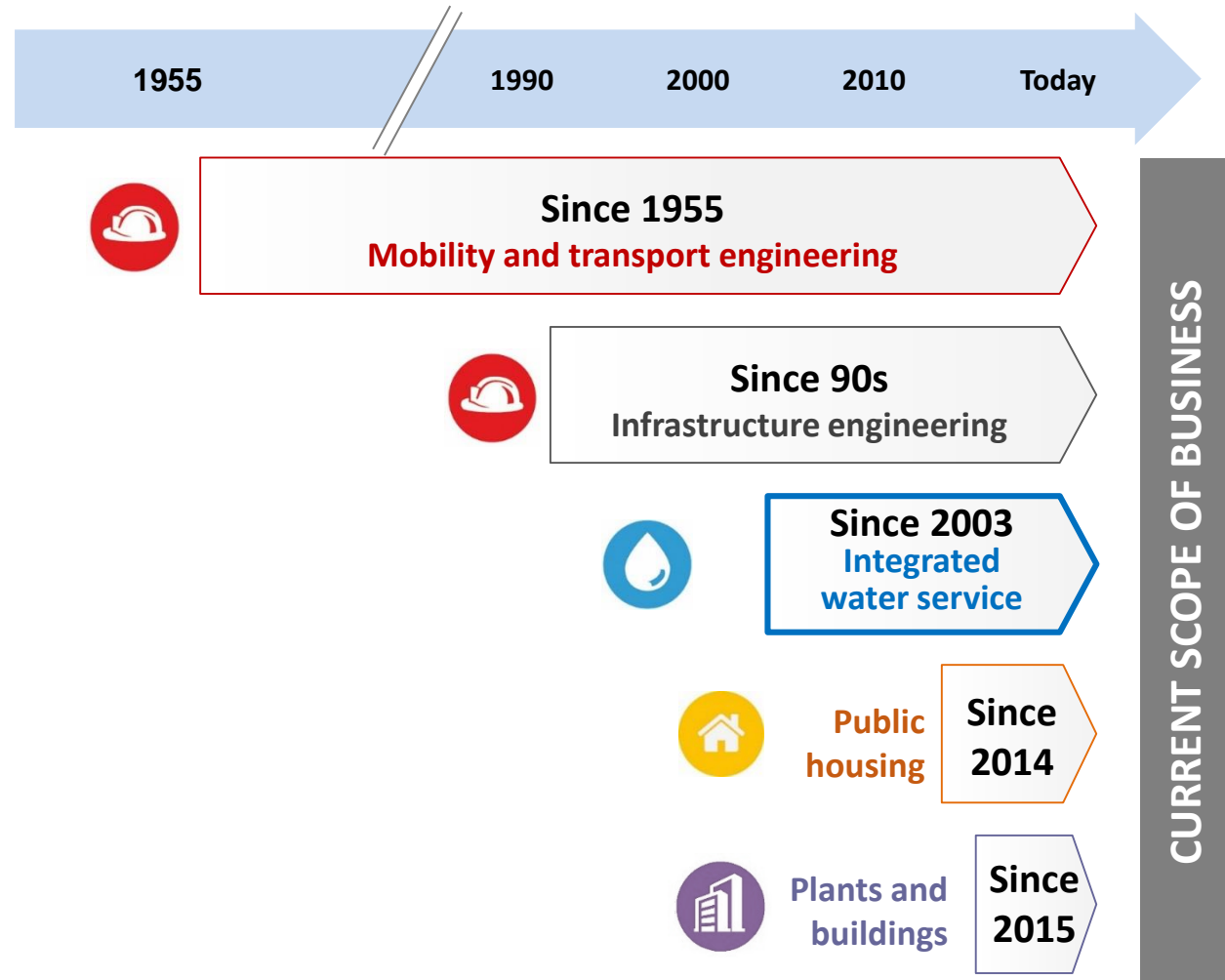
❖ IWS Regulatory Framework

❖ Investment Strategy



# Scope of business and evolution

- Founded in 1955, MM has designed and supervised the construction of all Milan Metro lines. MM is **fully owned** by the Municipality of Milan
- MM then extended its activity in the **infrastructure engineering** carried out mostly on behalf of the Municipality
- In 2003 the Milan City Council assigned to MM the **Integrated Water Service (IWS)**, to improve the quality of services
- **MM is managing the IWS on an in-house providing scheme with a 2037 horizon**



***MM has steadily enlarged its scope of business in public services area, becoming a solid multiservice reality***



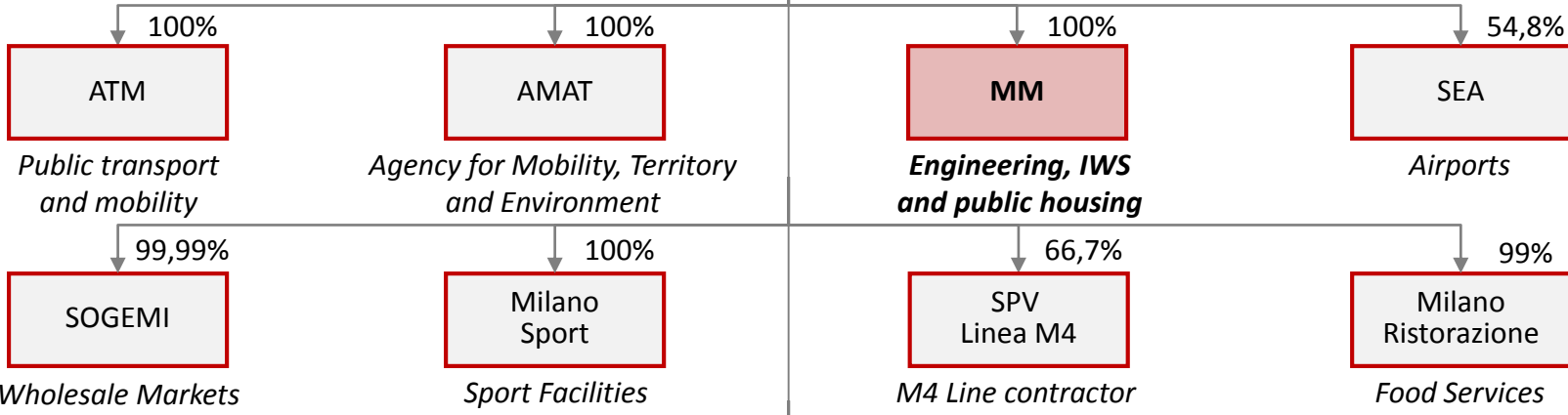
# The Municipality of Milan Group



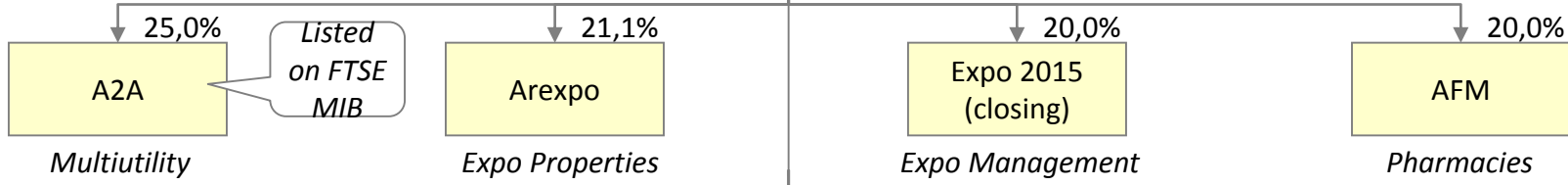
**Municipality of Milan**

- Total: 15 participated companies, o.w.:
  - 8 controlled
  - 4 connected (1 listed)
  - 3 other minority participations

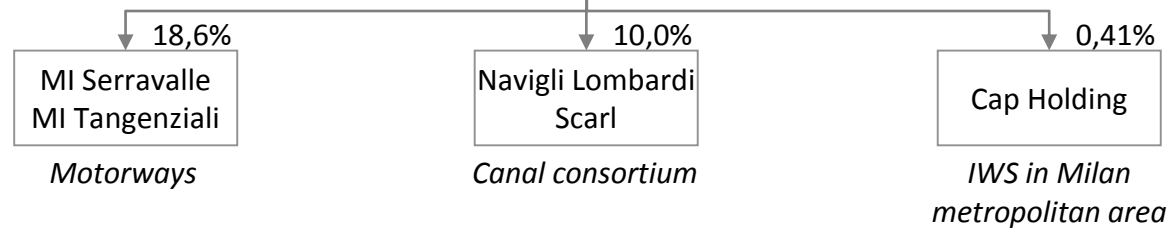
Controlled companies



Connected companies



Other participation



**MM is an in-house company fully owned by the Municipality of Milan**



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# Main business features

2016 data

## INTEGRATED WATER SERVICE

- **Invoiced volumes** City of Milan (2016): ~**186 millions** of cubic meters
- **Served population: 1.4 mln residents** (Milan) for a total of **2.0 mln of users**
- Almost **3,800 km of network managed**, 587 wells, 2 wastewater purification plants
- **Licensed until 2037**, in line with ATO Plan length

**79% of  
revenues**

**87% of  
EBITDA**

## ENGINEERING

- **Activity mainly based on a Service contract with Milan Municipality**
- **The Division acts on a multi-service basis for MM businesses**
- **2 subsidiaries**, active on national basis: ME e NME (Naples metro)

**15% of  
revenues**

**4% of  
EBITDA**

## PUBLIC HOUSING

- **About 39,000 units** managed, of which about **29,000 accommodations**
- In-house activities on the basis of a thirty-year agreement, ending in 2045

**5% of  
revenues**

**4% of  
EBITDA**

***IWS is the main business of the company and it can count on a strong engineering internal expertise***



# The IWS of the City of Milan

2016 data

← **100% service coverage level** →

## AQUEDUCT

- Milan network: **2,230 km**
- Distributed water : **224 mln** cubic meters
- **Technical leakages index** (AEEGSI method): **11,5%**

## SEWAGE

- Milan network: **1,560 km**
- **Mixed sewage network** for white and black wastewater
- Volumes conveyed to purification plants: **~238 mln mc**

## PURIFICATION

- **San Rocco Plant**, directly managed by MM
  - Volumes : 94 mln mc
- **Nosedo Plant** (Milano Depur):
  - Volumes: 144 mln mc
- **Peschiera B. Line** (Amiacque)
  - Volumes: 25 mln mc

## CUSTOMER MANAGEMENT

- **Resident population served: 1.4 mln inhabitants;**
- **Total population served** (including commuters, tourists,...): **2.0 mln inhabitants**
- **Total customers:**
  - ~ **50,000**
- **Billed water :**
  - ~**186 mln** cubic meters

## ANALYSES AND CONTROLS

- **17,809** analyzed samples
- **250,799** parameters analyzed





# Milan IWS context features

## Geography & Demographics

- **Very concentrated territorial area:** 181.8 sq. km
- **High population density:** 7,500 inhabitants per sq.km
- **High anthropization** levels and pressure, which increase intervention complexity and quality needs

## Infrastructural Completeness

- High endowment of **IWS networks (about 3,800 km)** in a small territory, with **low level** of technical leakages
- **100% of the territory served** by wastewater purification plants
- The **purified water** can be entirely used for **agricultural purposes**

## Long term efficiency and effectiveness

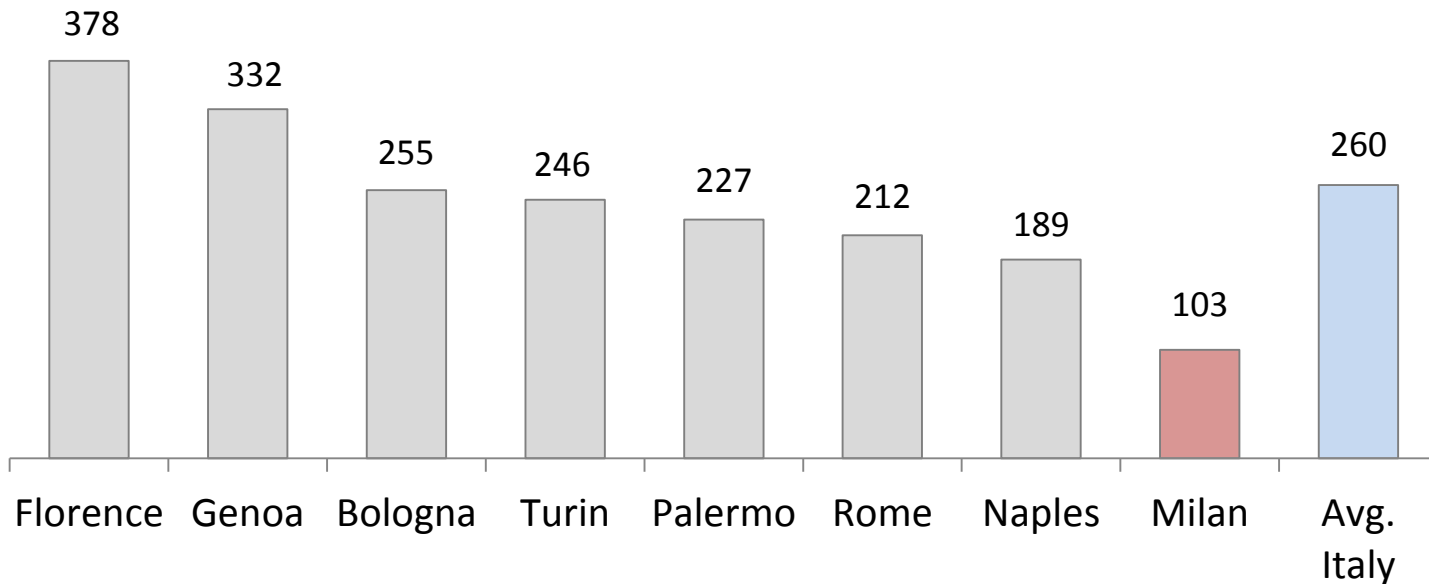
- **IWS Licensed until 2037**, in line with ATO Plan length
- **Very low tariff** on a national and international level
- **Milan as a flagship city** for Italy (→ Expo 2015)

***MM manages a complex and very relevant IWS system***



# Milan IWS context features

**IWS yearly average cost for italian households**  
(€/year for a 150 cubic meters consumption; 2015)



**Vs. MM**

3,7x

3,2x

2,5x

2,4x

2,2x

2,1x

1,8x

1,0x

2,5x

***MM tariffs for households are ~60% lower than national average tariffs***



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❖ Company Profile

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❖ **IWS Regulatory Framework**

❖ Investment Strategy

## Active players and flows in tariff definition

### AEEGSI



- Setting and reviewing the **regulatory framework**
- **Definition** of the **ATOs** and the **guidelines**
- **Approving** the **investments plans**, programs and **financial plans** submitted by the EGATOs (and agreed with the industrial operators), and hence the **resulting tariffs**;
- **Verifying** of **quality performance data** of the IWS

### Enti Governo d'Ambito (EGATO)

- **Establish and ensure the correct application of the IWS tariffs** obtained by using calculation methods based on specific algorithms and tools, to be submitted periodically for the approval of the National Authority (AEEGSI)
- **Definition of the investment plan** of the relevant territory following the proposal of the industrial operator; definition of specific quality data;
- Definition of the **economical and financial plan** of the relevant ATO

### Industrial players

- **IWS Management** under individual **concession agreements** (assigned through: public tender; mixed public/private shareholding; in-house providing scheme)
- Defines **proposals for investment plans and financial plans** to be submitted to the EGATO; **tariff application**
- **Monitor the performance** of water service and supply, of water **quality and of customer satisfaction**, sending relevant data to EGATO/AEEGSI.



### Italian Regions

- Identification of the **Enti di Governo d'Ambito (EGATO)**
- Often when an **ATO** corresponds to one Region the relevant EGATO is the same Region

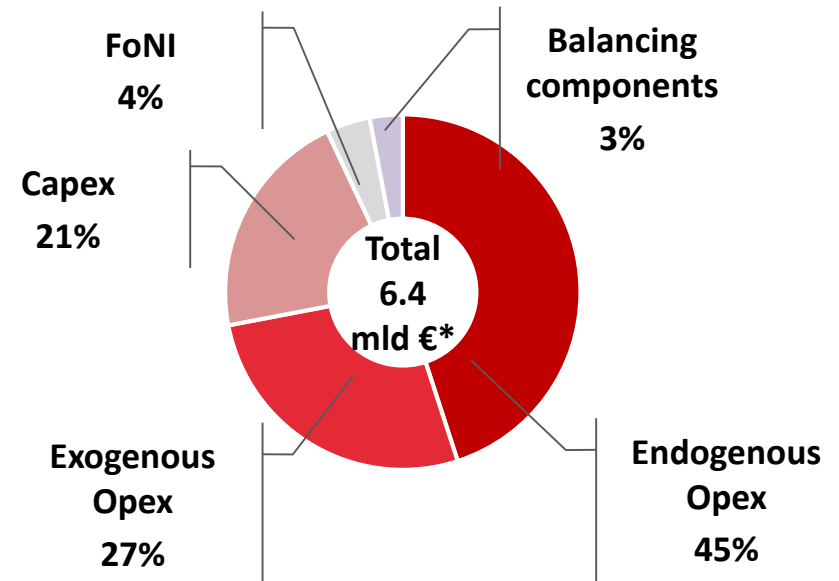
### ATOs

- An **Ambito Territoriale Ottimale (ATO)** is the reference territory in which the IWS is managed
- Each ATO ranges from some Municipalities to one Region
- The ATO can be divided into territorial basins for the IWS settlement

## Reduction of institutional and market fragmentation

- Italian regulatory scheme for Water industry is thus based both on a national and a local institutional framework
- AEEGSI is pursuing an objective of general reduction in the number of players, in order to stimulate efficiency through dimensional growth and scale economies
- The number of local authorities (EGATO) has declined from 93 in 2011 to 70 in 2015 and has further decreased to 64 in 2016;
- The number of territorial basins, which should be the official perimeter of a single entrustment, has decreased from 94 in 2015 to 92 in 2016, the integration of current players is thus still on going;
- In terms of the total number of players operating in the industry, AEEGSI has approved 2.103 tariffs to single players for 2012-2013 period and 1.971 on 2014-2015;
- There are at the moment a few, key players in the industry; MM is one of them.

## Water tariff composition according to MTI 1 rules ('14-'15)



- The tariff structure for Italian IWS players show a high component of current operating expenses (which amount for about 72% of total revenues);
- Investment components (Capex and FoNI) are growing and will increase in 2016-2019, but their total aggregate is still about 1/4 of total revenues;
- This revenue structure is the result of the historical cost structure of the Italian players.



# IWS key regulatory takeaways

## Stable and predictable

- AEEGSI: independent regulatory authority
- Transparent and predictable regulatory framework
- 3<sup>rd</sup> regulatory period will consistently run for the 2016-2019 years

## Cost and Investment recovery

- Tariff formula allows for timely recovery of Opex including depreciation and a fair return on investments
- Timely recognition of capex invested (2 years lag); depreciation allowance fairly reflects assets consumption

## Low risk profile

- No volume risk
- Exposure to clients mitigated by recognition of bad debt % on revenues
- Long term expiry with compensation mechanism mitigating capital structure aspects of concession termination risk, defined on a national regulation basis

## Supportive framework for investments

- FoNI allowance to finance new investments in advance
- Possibility to increase tariffs with a higher cap should important investment be planned

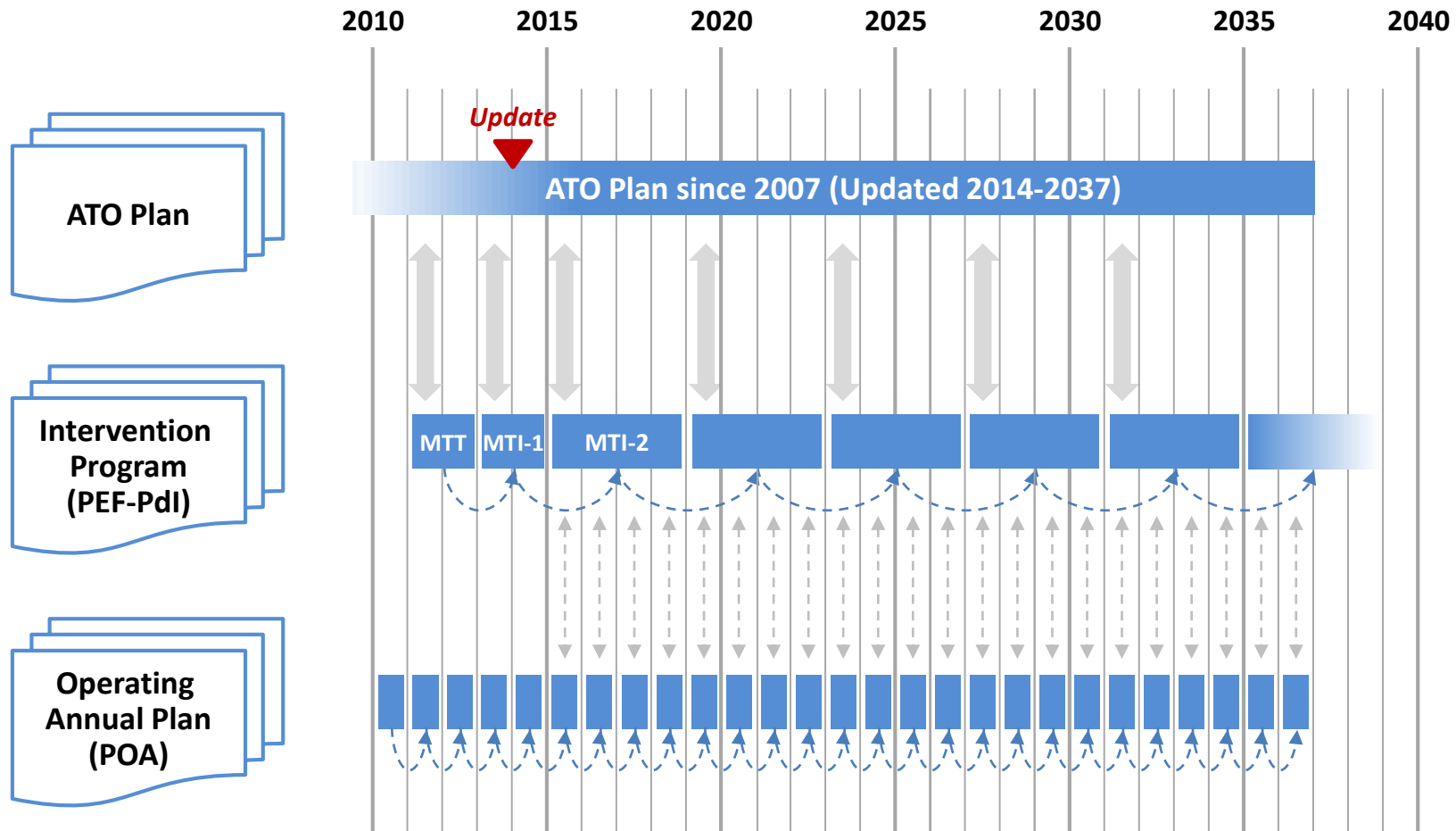


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- ❖ Business Description
- ❖ IWS Regulatory Framework
- ❖ **Investment Strategy**



# The IWS planning process (1/2)

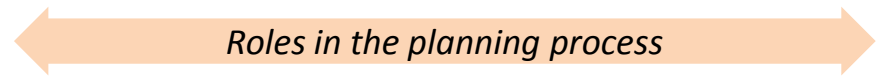


***The IWS planning process is composed by a multi-level systems of planning documents, with periodic updates and monitoring***





# The IWS planning process (2/2)



**Document**                      **Purpose**

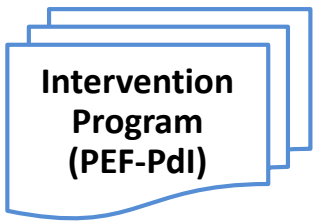


- Definition of service levels, objectives, quality levels
- General planning of investments

- Data transmission and intervention proposal
- Execution

- Plan definition and approval
- Plan implementation monitoring

- Plan verification

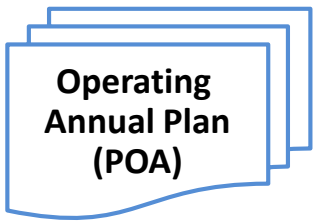


- 4-year planning of interventions defined at the beginning of each regulatory period; includes economic and financial projections (PEF) and tariff proposal

- Data transmission and intervention proposal
- Execution and tariff application

- Definition of program and tariff proposal to AEEGSI
- Service objectives

- Verification and tariff approval



- Declines intervention program and updates Pdl planning for each year of the regulatory period

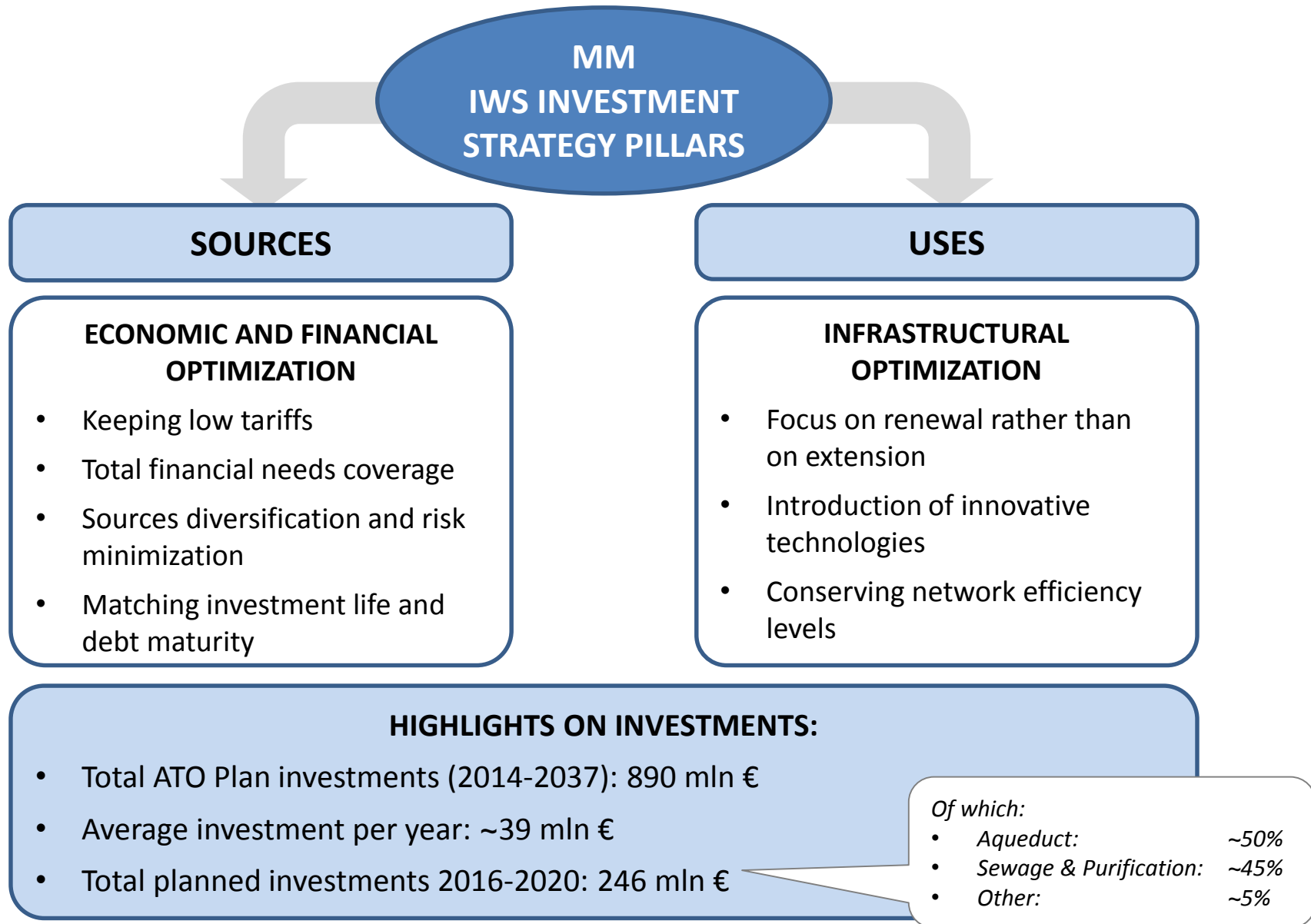
- Proposal

- Approval

*Plans and Programs must ensure the financial and economic sustainability of the Integrated Water Service for the entire period*

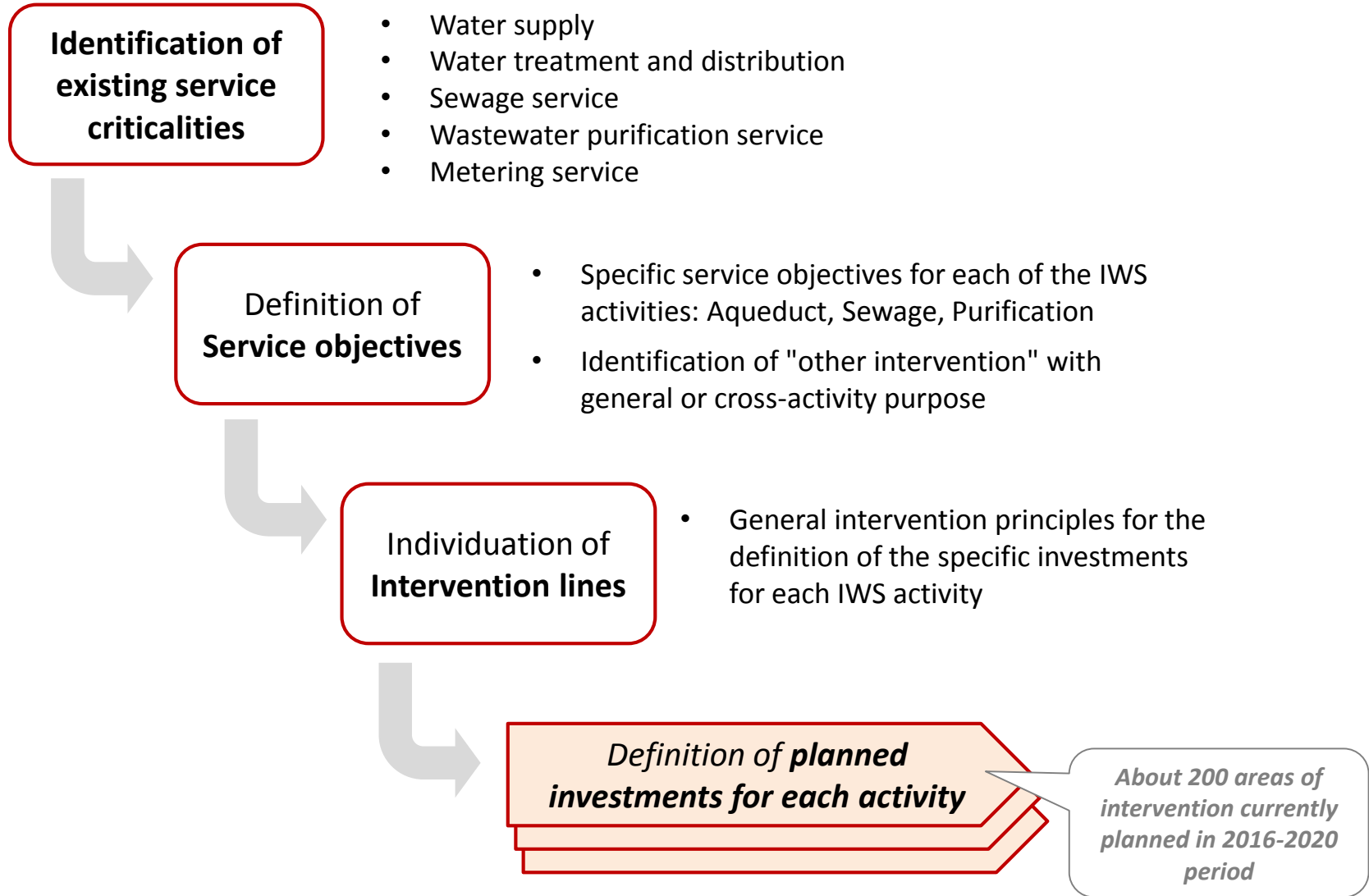


# Investment strategy: the pillars





# Investment strategy: the planning process





# Service objectives for MM strategy

## SERVICE OBJECTIVES INCLUDED IN THE INVESTMENT STRATEGY

### AQUEDUCT

- A1** Optimizing quality and quantity of water potable resources
- A2** Perfectioning of quantitative distribution level (e.g.: plant optimization)
- A3** Perfectioning of qualitative distribution level
- A4** Enhancement of network efficiency level
- A5** Safety and video surveillance

### SEWAGE

- S1** Service enhancement and overloads reduction
- S2** Network efficiency level conservation
- S3** Network hydraulic efficiency optimisation (e.g.: parasitic water diversion,...)

### PURIFICATION

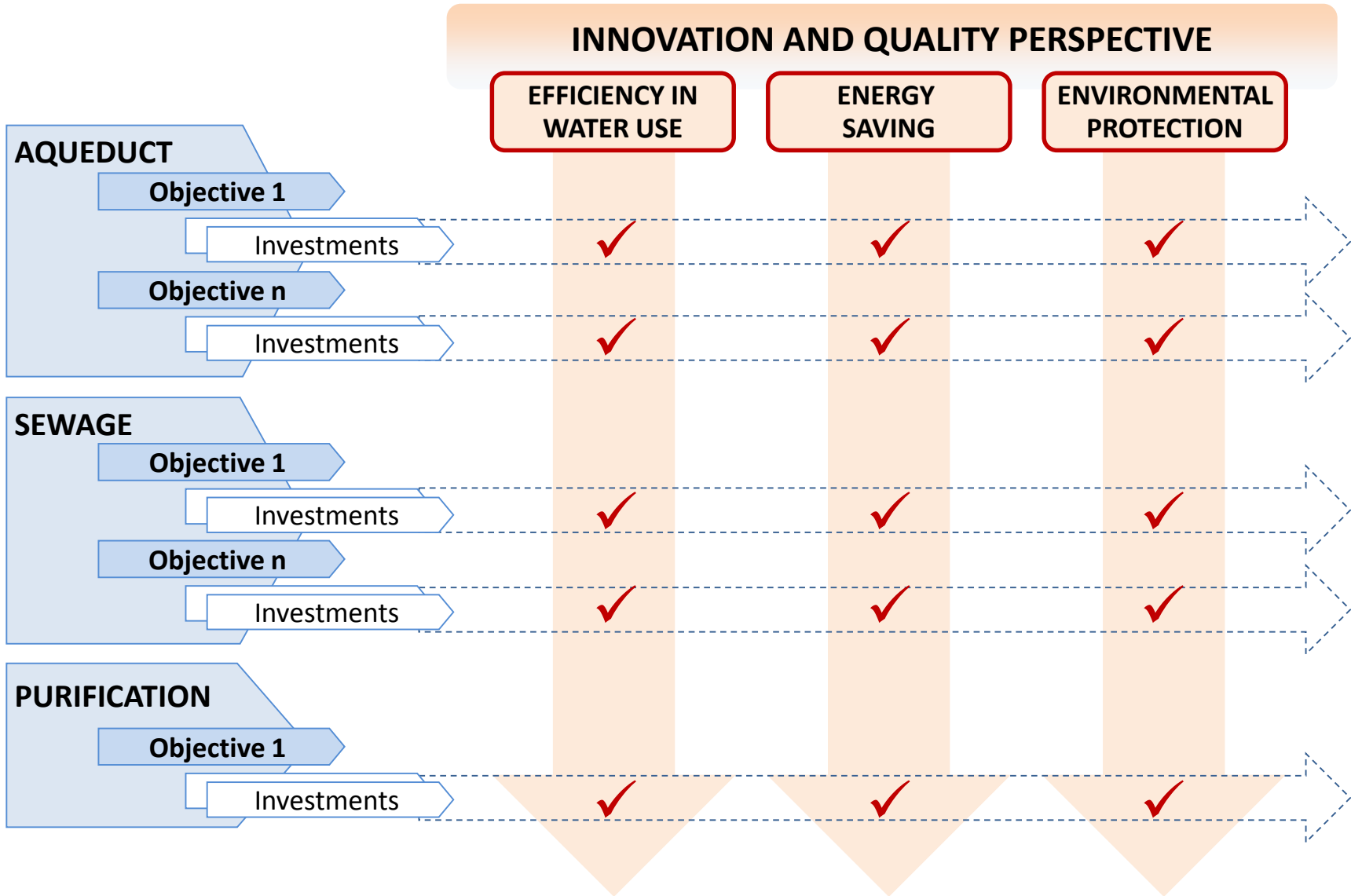
- Maintaining and increasing plant potentiality & performance, through:
- P1** Ensuring treatment continuity, efficiency and completeness
  - P2** Implementing interventions for plant and devices revamping
  - P3** Using plant management innovative solutions focused on energy saving

### GENERAL INTERVENTION PRINCIPLES

*Innovation and smart water projects; energy saving and environmental sustainability; low urban impact interventions; IT enhancement*



# Investment strategy: a different view



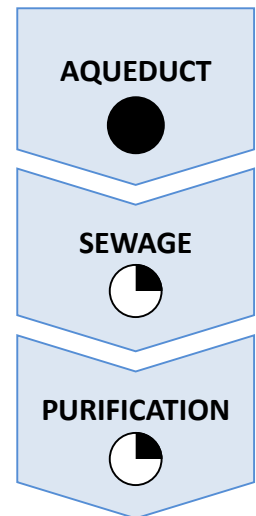
***IWS Investments are not just a matter of volumes, but a matter of quality***<sup>21</sup>

1

## EFFICIENCY IN WATER USE

- **Condition assessment** audits for distribution networks
- **Aqueduct plant** management **optimization** (DSS)
- **Automatic Meter Reading** installation
- **Low urban impact technologies** (no-dig, CIPP and relining)
- Enhancement of supervision and **remote control systems** and **remote control valves**
- **Aqueduct modelling** calibration
- **Bio denitrification** and denitrification **treatment** systems
- **Continuous monitoring** of distributed **water quality**
- **Video surveillance** and anti-intrusion systems

### Impact areas

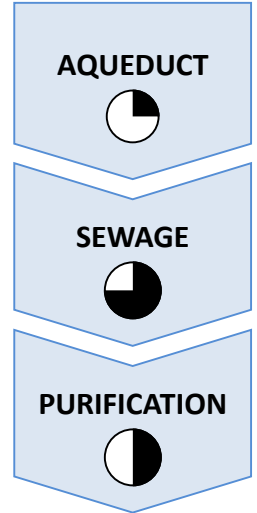


# Innovative investment projects (2/2)

## 2 ENVIRONMENTAL PROTECTION

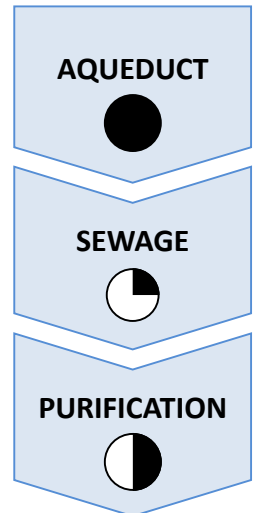
- **New measurement devices** on overflow channels and on receiving watercourses
- **Safeguard of receiving watercourses** interventions
- **Condition assessment** audit for sewage networks
- Interventions for **parasitic water diversion**
- Evolution of **UV disinfection** and **tertiary filtration** system

### Impact areas



## 3 ENERGY SAVING

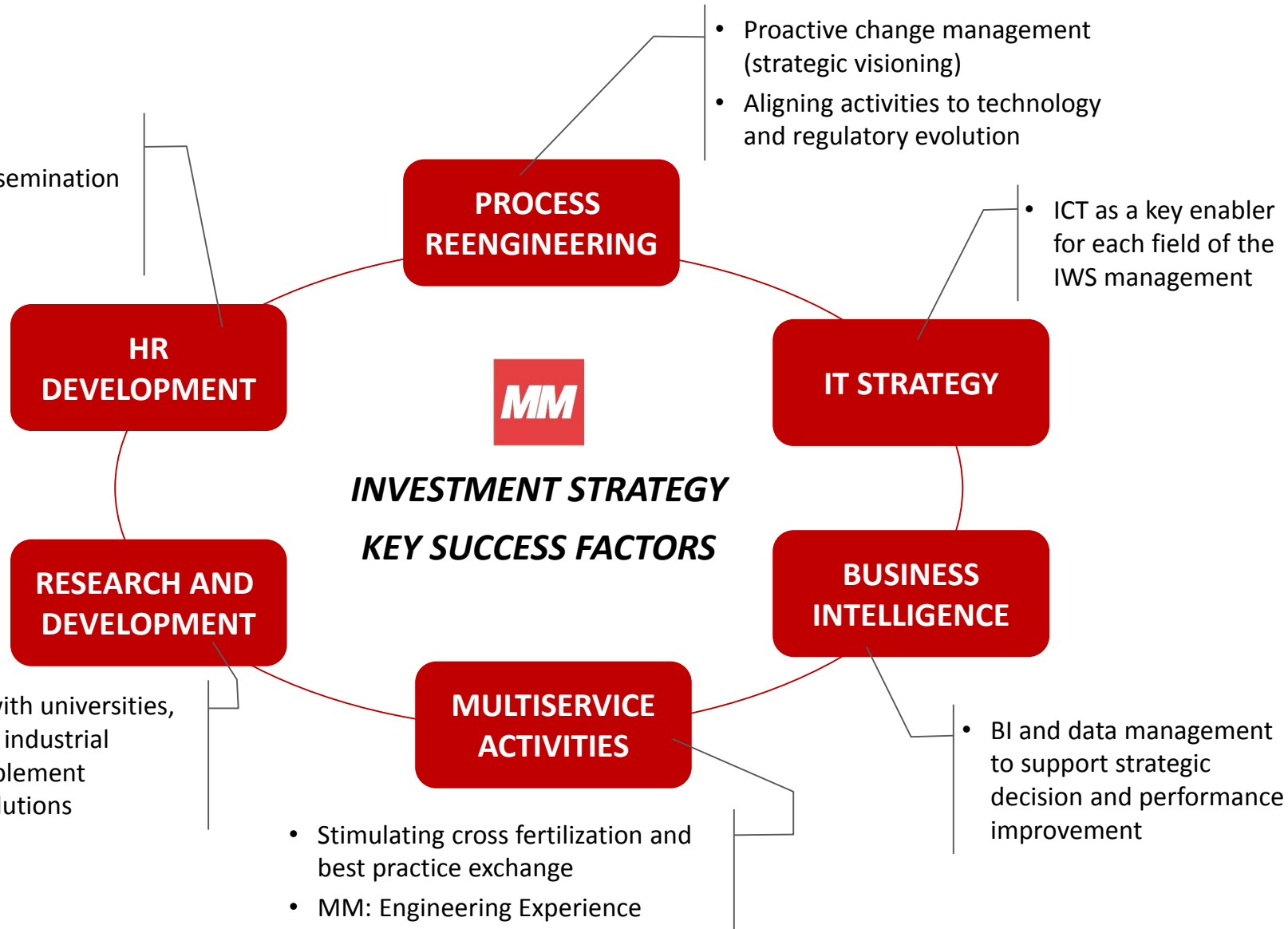
- Substitution and motorization of existing **network valves**
- **Aqueduct plant** management **optimization** (DSS)
- Studies and experimental interventions for aqueduct **network pressure and flow rate districts** realization
- Installation of **cogeneration plants**
- **Sludge management** strategy definition (e.g. recovery processes)





# How to reach investment effectiveness

- HR training
- Know how dissemination
- Competence development



- Partnership with universities, suppliers and industrial players to implement innovative solutions

***IWS Investment strategy needs a comprehensive approach***



# Financial strategy: market opportunities

## *Positive regulation impact on investors*

- **Stability & predictability** : positive track record from AEEGSI regulation; multi-annual regulation schemes
- **Cost recovery & investment boost**: investment-oriented regulation schemes; full-cost recovery principle in tariffs
- **Lowering risk profile**: volume risks mitigation; termination value discipline on an homogeneous national basis

## *Favorable market conditions*

- **Convenience of financial markets**, with a unique opportunity window due to very low reference rates
- **Multiplicity of available instruments**, such as bank financing, structured loans, corporate & project bonds
- **Growth of investors volume**: increase of institutional opportunities (EIB, CDP) and of foreign private investors

# The set-up of IWS financial strategy

1

## Total financial needs coverage

- Definition of a financial strategy to cover the entire financial needs up to 2037
- Coherence with NFP evolution and with existing debt (no restructuring)

2

## Sources diversification

- Use of financial instruments other than standard bank financing
- Preference for the choice of multiple instruments, on a convenience analysis basis

3

## Risk and collaterals minimization

- Implementation of a credit Rating process (Investment Grade)
- Minimizing risks for the Municipality of Milan and avoiding refinancing risk

4

## Increase of debt maturity

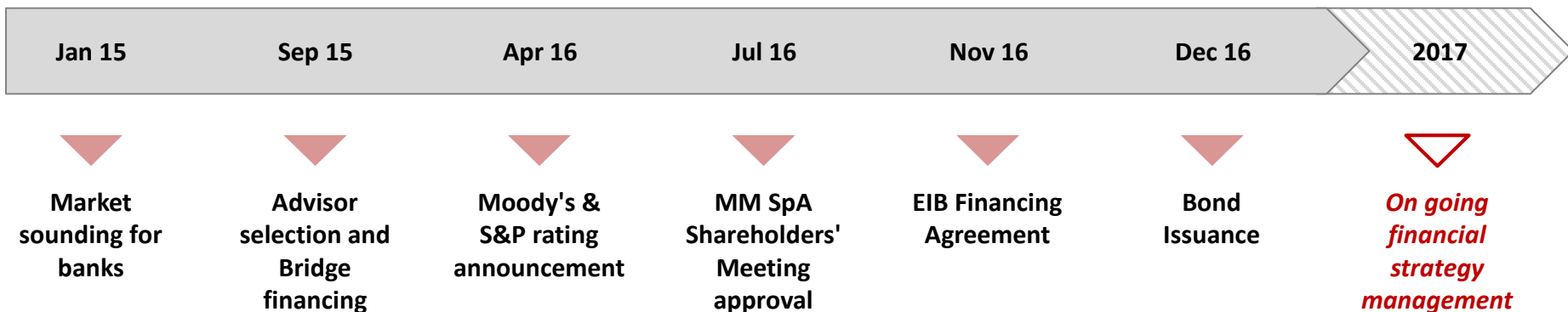
- Coherence between financial sources and investment uses
- Preference for medium to long term instruments

***The aim was aligning financial structure to investment and concession features***



# IWS financial strategy timeline chart

## FINANCIAL STRATEGY IMPLEMENTATION PROCESS



## MM FINANCIAL INSTRUMENTS MAIN FEATURES

### LISTED BOND

- **Eur 100 mln Notes**, reserved to institutional investors, listed on the Irish Stock Exchange
- **19 years Notes** (2016-35), amortizing since 2025, with **3.15% fixed interest rate**

### EIB FINANCING

- **Eur 70 mln financing contract**, at a very competitive rate, thanks to "Juncker Plan" (EFSI) of European Commission
- **18 years length** (2016-2034), focusing on 2016-2020 investment plan

### CONTINUING OBLIGATIONS

- These instruments require the **maintenance of a rating** and a **continuing listing of the Notes** until their final reimbursement
- **MM must maintain some financial and economic performance levels** for all the financing period (so-called covenants)



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**Thank you**