



TECNIBERIA/ASINCE

Spanish Association of Engineering, Consulting and
Technological Services' Companies



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The role of Engineering in the provision of Public Infrastructure with Private Funding

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SUMMARY

1. Since 1990's: New background for public investment in developed countries.
2. The experience of Spanish private companies in the management of public infrastructure.
3. New legal framework in Spain.
4. The role of engineering and consulting firms in the development of a concession procedure for construction and exploitation of infrastructure.
5. Consulting Engineers' duties.
6. Conclusion.



SINCE 1990's: NEW BACKGROUND FOR PUBLIC INVESTMENT IN DEVELOPED COUNTRIES

Features of the new background:

- Economic globalization.
- Economic liberalization.
- Budget discipline.
- Sustainable development.



Main effects:



- Significant increase in the flow of goods and people transportation.
- The transportation of goods as a link in the logistics chain.
- Progressive lack of water resources.
- New environmental risks.



SINCE 1990's: NEW BACKGROUND FOR PUBLIC INVESTMENT IN DEVELOPED COUNTRIES

The need of private funding contribution



Need of important investment in infrastructure due to the expected big increase of demand, both in volume and in quality.

Restrictions due to budgetary discipline

Need of private funding contribution



Need of new private funding regulation



Spanish Response
2000 - 2007 Infrastructure Plan (I.P)



SINCE 1990's: NEW BACKGROUND FOR PUBLIC INVESTMENT IN DEVELOPED COUNTRIES

Need of investment in Spain I.P. 2000 - 2007

Investment in Infrastructure	Amount	
	MM. €	MM. US \$
Roads	25.850	30.955
Railways	28.250	33.829
Airports	6.600	7.904
Ports	3.000	3.593
Communications	6.000	7.185
Hydraulic Works	22.850	27.363
Industry	6.000	7.185
Others	15.600	18.681
TOTAL	114.150	136.695

Expected investment breakdown	
Administration and Public Companies	48%
Cohesion and Structural Funds	32%
Private Sector	20%
(in other terms: 22.830 MM. € ≅ 27.339 MM. \$)	



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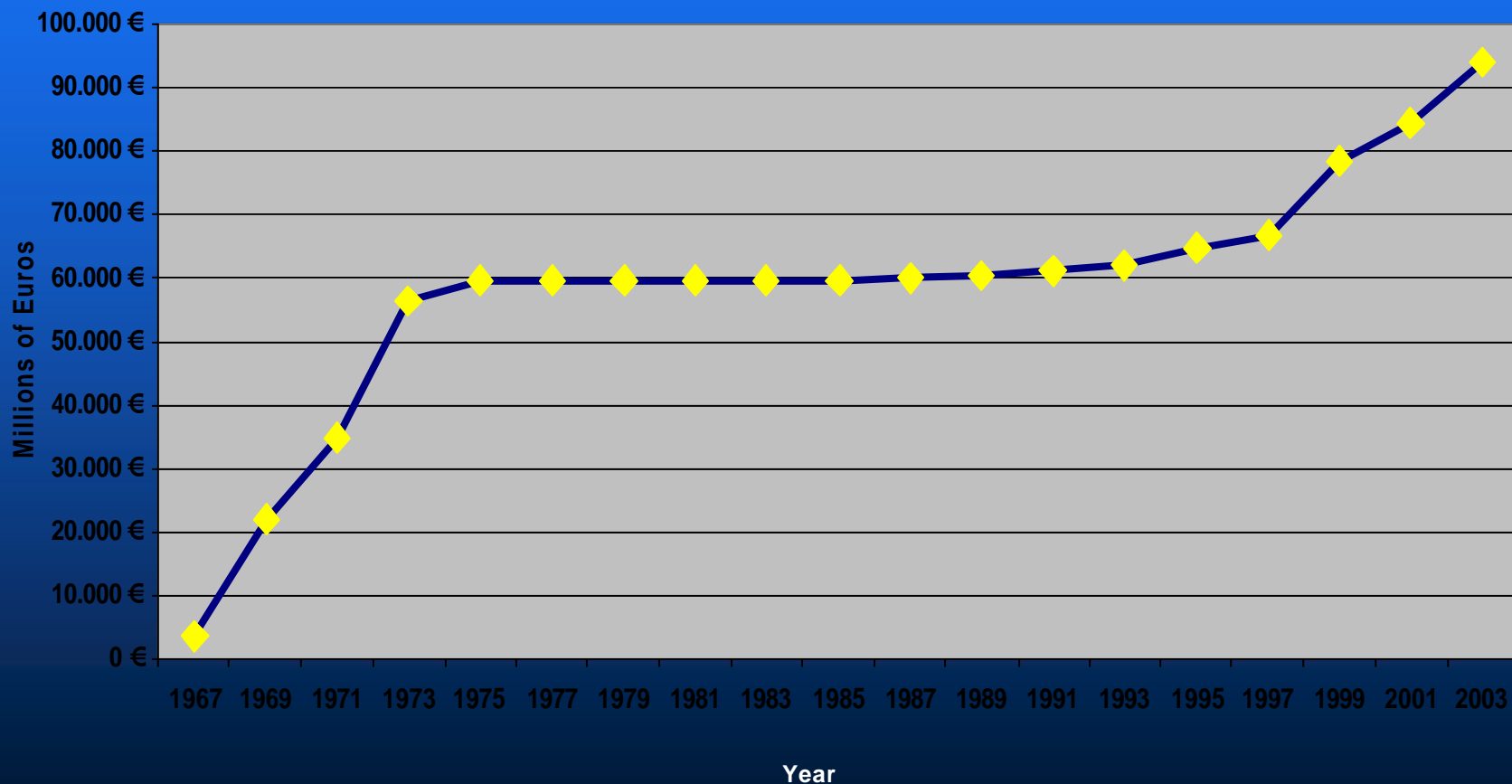
THE EXPERIENCE OF SPANISH PRIVATE COMPANIES IN THE MANAGEMENT OF PUBLIC INFRASTRUCTURE

- Concessional Spanish contractors manage a total investment amount of 94.000 million € in infrastructure projects
- Equity participation in different projects represents between a 7% and a 40% of total investment, with a big concentration around 25%



THE EXPERIENCE OF SPANISH PRIVATE COMPANIES IN THE MANAGEMENT OF PUBLIC INFRASTRUCTURE

Cumulative Investment by Year





THE EXPERIENCE OF SPANISH PRIVATE COMPANIES IN THE MANAGEMENT OF PUBLIC INFRASTRUCTURE

Concessional Spanish contractors are present in
the following countries:

Andorra, Argentina, Australia, Brasil,
Canada, Chile, Colombia, Ecuador, Spain,
Ireland, Israel, Jamaica, Mexico, Portugal,
Puerto Rico, United Kingdom, Dominican
Republic and South Africa.

THE EXPERIENCE OF SPANISH PRIVATE COMPANIES IN THE MANAGEMENT OF PUBLIC INFRASTRUCTURE

TOP TRANSPORTATION DEVELOPERS 2003

Company	No. of Concession/P3 Projects	
	Under Contract*	Active Proposals
<u>Dragados /ACS (Spain)</u>	41	19
<u>Ferrovial /Cintrex (Spain)</u>	26	17
Macquarie Bank/MIG (Australia)	26	7
<u>Aberthis (Spain)</u>	19	0
John Laing (UK)	18	4
Vinci/Cofiroute (France)	17	16
<u>OHL (Spain)</u>	14	4
<u>FCC (Spain)</u>	14	3
<u>Acciona (Spain)</u>	13	7
<u>Sacyr (Spain)</u>	13	7
EGIS Projects (France)	9	13
Siemens (Germany)	9	11
AMEC (UK)	9	8
Bouygies (France)	8	20
Hochtief (Germany)	8	10
Skanska (Sweden)	8	8
Balfour Beatty (UK)	8	7
Alstom (France)	7	13
Bechtel (US)	6	10
ABB (Switzerland)	6	5
New World Infrastructure (China)	6	2
Alfred McAlpine (UK)	6	1
Impregilo (Italy)	5	8
Brown & Root (US)	4	5

* road, bridge, tunnel, rail, port, airport concessions; + public-private partnerships over \$50m put under const/oper. since 1985. Source PWF database.



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NEW LEGAL FRAMEWORK IN SPAIN

Features of the new law

- Unifies legislation that is currently disseminated by sectors.
- Legal security is reinforced for the concessional system.
- Introduces more flexibility in financing infrastructures.
- Improves the risk allocation.
- Gives more importance to the operational phase.
- Welcomes private initiative in the building of infrastructure.



Seeking a basic effect:
Attraction of private capital

NEW LEGAL FRAMEWORK IN SPAIN

Opportunities offered by the new Law to Engineering and Consulting Companies

Direct benefits

Important investment volume

- ➡ • Quantitative increase of the market

Investment planning

- ➡ • Stability guarantee
- Medium term planning opportunity
- Assumption of growth risks
- Improvement of our management and production structures
- Stimulation of R+D+i investment
- Optimization of International competition

New backgrounds

- ➡ • Possible new roles
- To take a chief role in new initiatives



NEW LEGAL FRAMEWORK IN SPAIN

Opportunities offered by the new Law to Engineering and Consulting Companies

Risks

- Tension between private client's interests and Administration's requirements.
- Attraction of new competitors.
- Possible compatibility and incompatibility conflicts.
- Demand of more civil professional responsibility guarantees.
- In the Law there is no mention made to the role of the consultant.



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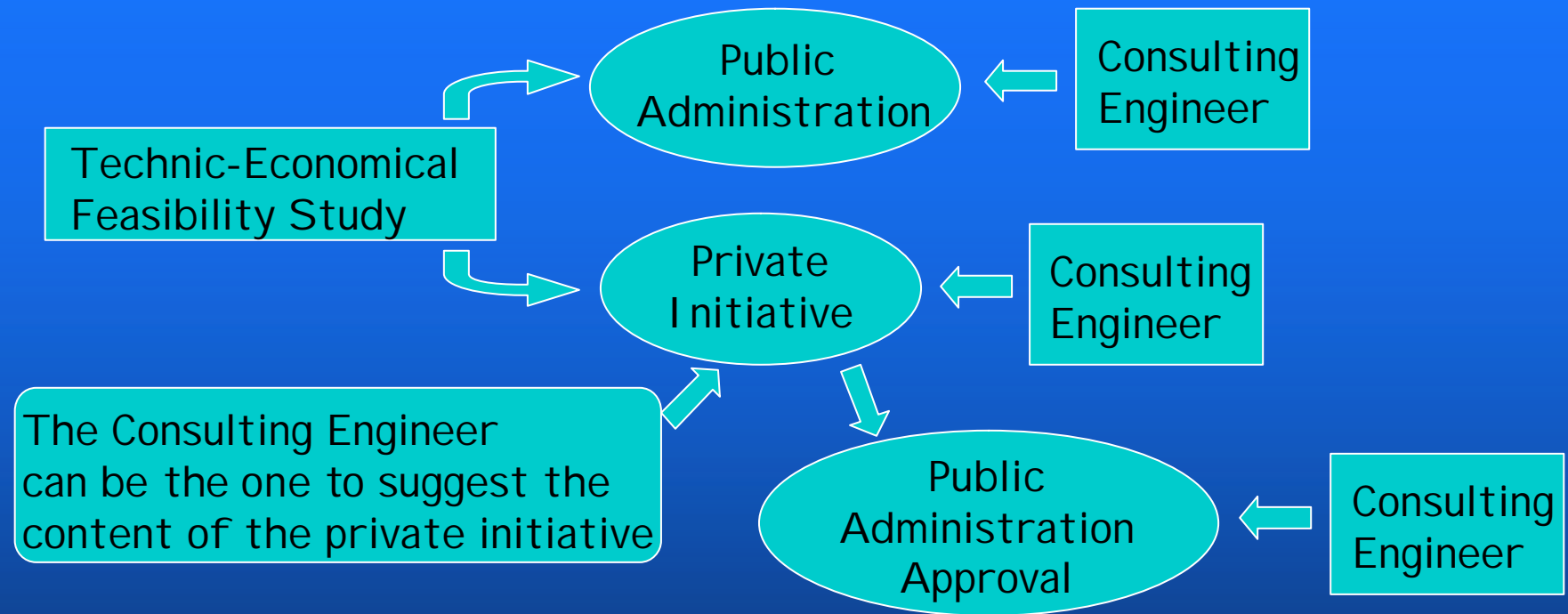
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THE ROLE OF ENGINEERING AND CONSULTING FIRMS IN THE DEVELOPMENT OF A CONCESSION PROCEDURE FOR CONSTRUCTION AND EXPLOITATION OF INFRASTRUCTURE

1. **Technic – Economical Feasibility Study.**
2. Tendering procedure of the concession.
3. Building and operation preliminary draft.
4. Building and operation project.
5. Building
6. Operation, maintenance, big repair.

1. Technic-Economical Feasibility Study



Consulting Engineer's roles

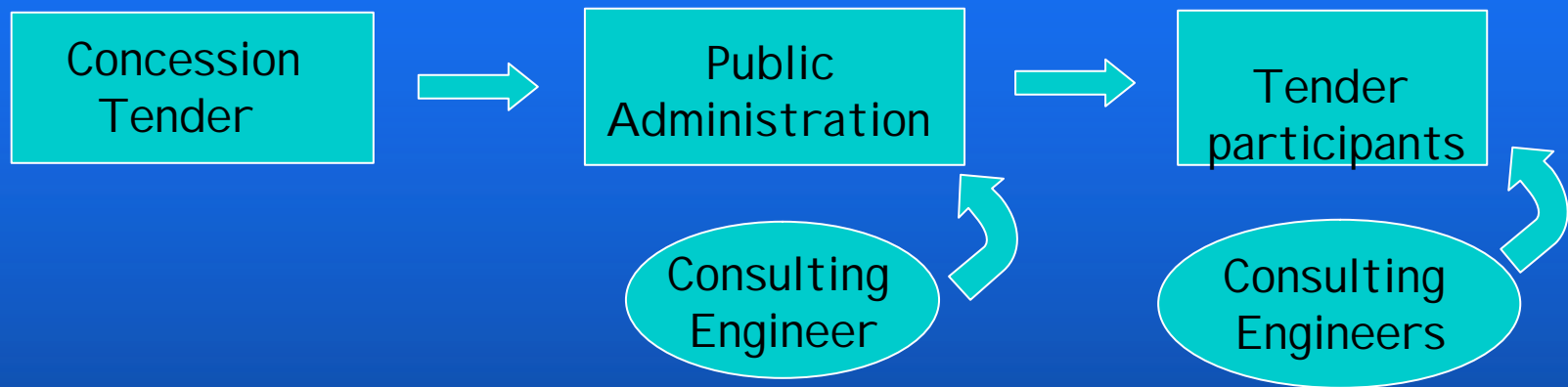
- Asses Public Administration.
- Promote the private initiative.
 - Manage the constitution of the property developer team.
 - Asses the property developer team.
- Asses the property developer team, other than the consultant.
- Asses Public Administration in the moment of approval.



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2. Tendering procedure of the concession.



Consulting Engineer's roles

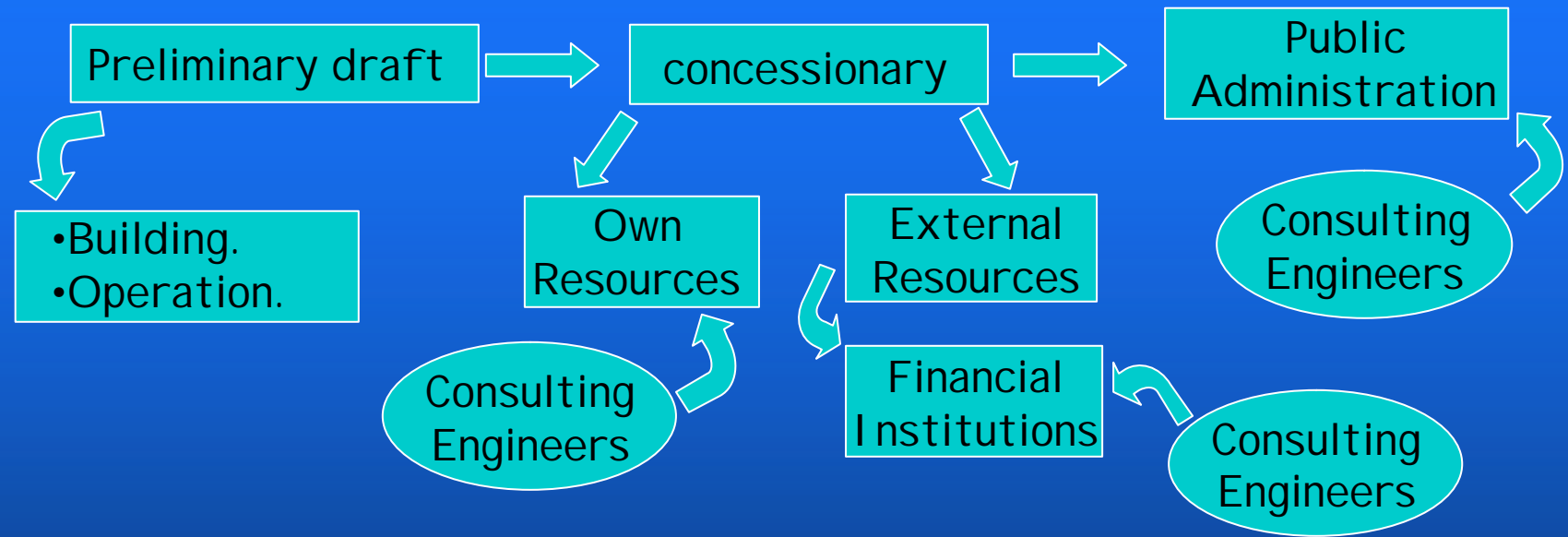
- Asses the Public Administration.
 - Preparation of tender documents.
 - Analysis of the bids of tender participants.
- Asses the Tenderer.
 - Preparation of the bids.
 - Bid follow-up.



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3. Building and operation preliminary draft



Consulting Engineer's roles

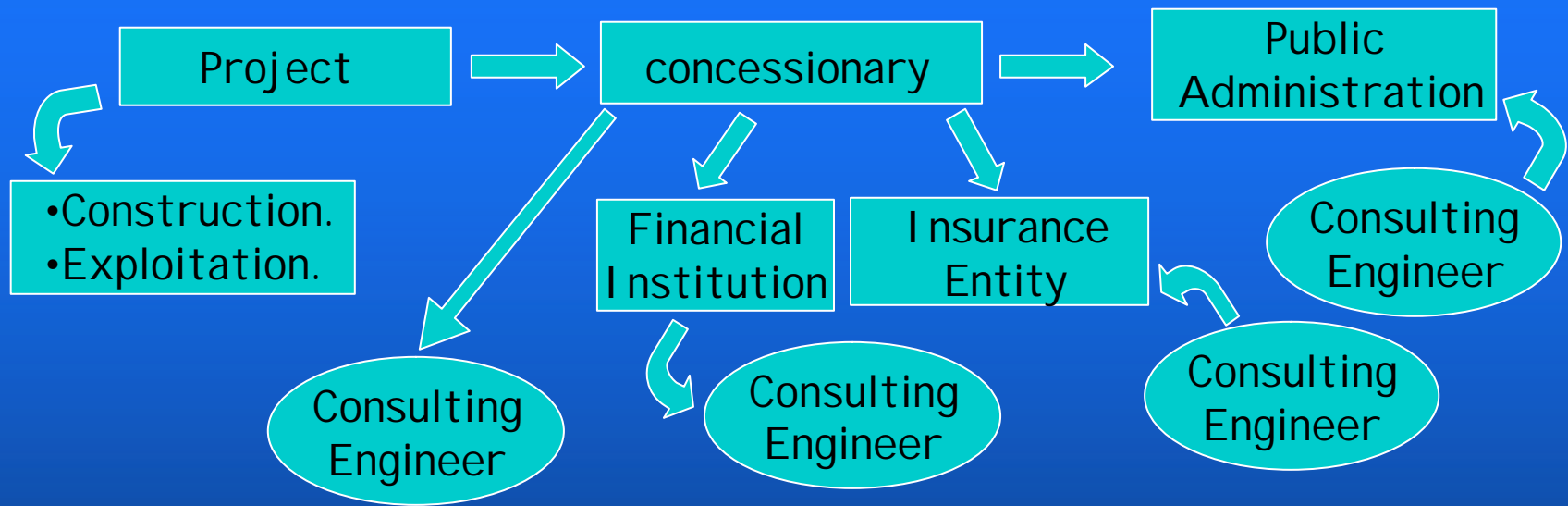
- Draw up the project for the concessionary.
- Asses the financial institution.
- Asses the Public Administration.



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4. Building and operation project.



Consulting Engineer's roles

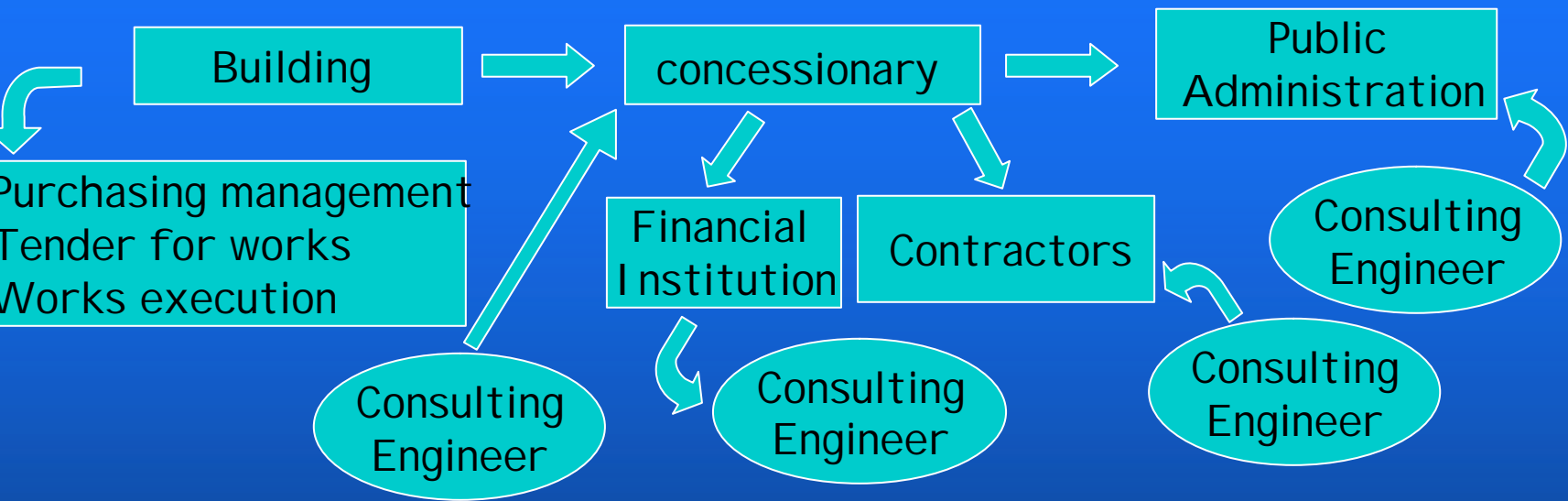
- Draw up the building and operation project for the concessionary.
- Asses the financial institution.
- Asses the insurance entity.
- Asses the Public Administration.



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Consulting Engineer's roles

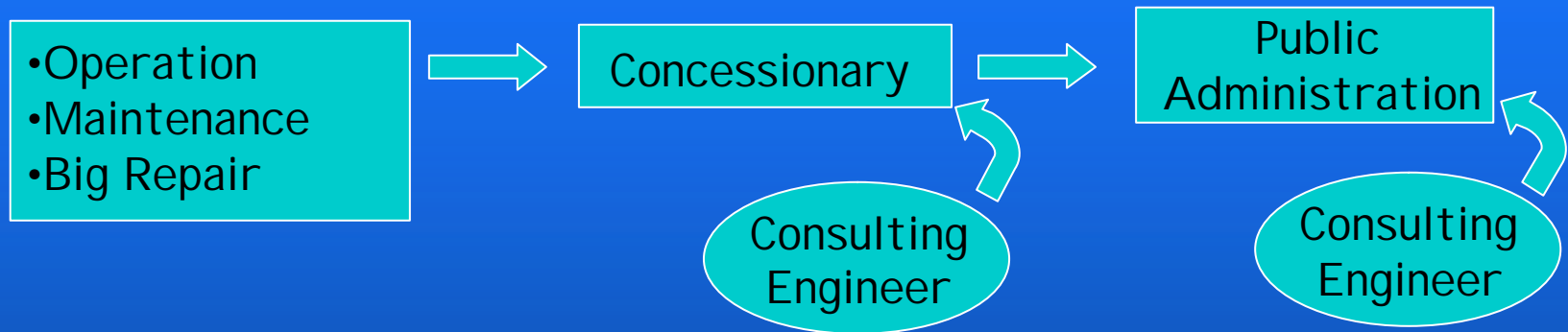
- Manage the building, assembly and start up procedures – concessionary.
- Asses the financial institution.
- Asses the contractors.
- Asses the Public Administration.
 - Reception process.
 - Evaluation of executed public works.



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Consulting Engineer's roles

- Operation program
- Maintenance and repairing projects.
- Technological suitability projects.
- Supervise the maintenance and operation of the public works concessions.



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CONSULTING ENGINEERS' DUTIES

- Convince Public Administrations about:
 - Need of consulting engineers' participation.
 - Need of supervision and control to follow the contracts.
 - Real capacity/empowerment for the existing offer.
- Promote their capacities to all the agents participating in the investment process.
- Training people to diversify the services offered – Take advantage of synergies.
- Ethic behaviour: moral integrity. Equity amongst the different agents.



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CONCLUSION

If sustainability, technology, innovation and global costs are the key factors that lead to the success of any building, financing and operation project, its management should rely on those who best know how all these factors are intertwined and how they behave:

The Consulting Engineers