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"Innovation and knowledge creation in the SMEs of an Aeronautical Industrial Cluster"

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Summary

- The forces in action in the aeronautical field;
- The organization of the aeronautical field;
- The Campania's cluster;
- The innovation in the aeronautical Campania's cluster;
- The Territorial Knowledge Management in the aeronautical Campania's cluster;
- Conclusion.

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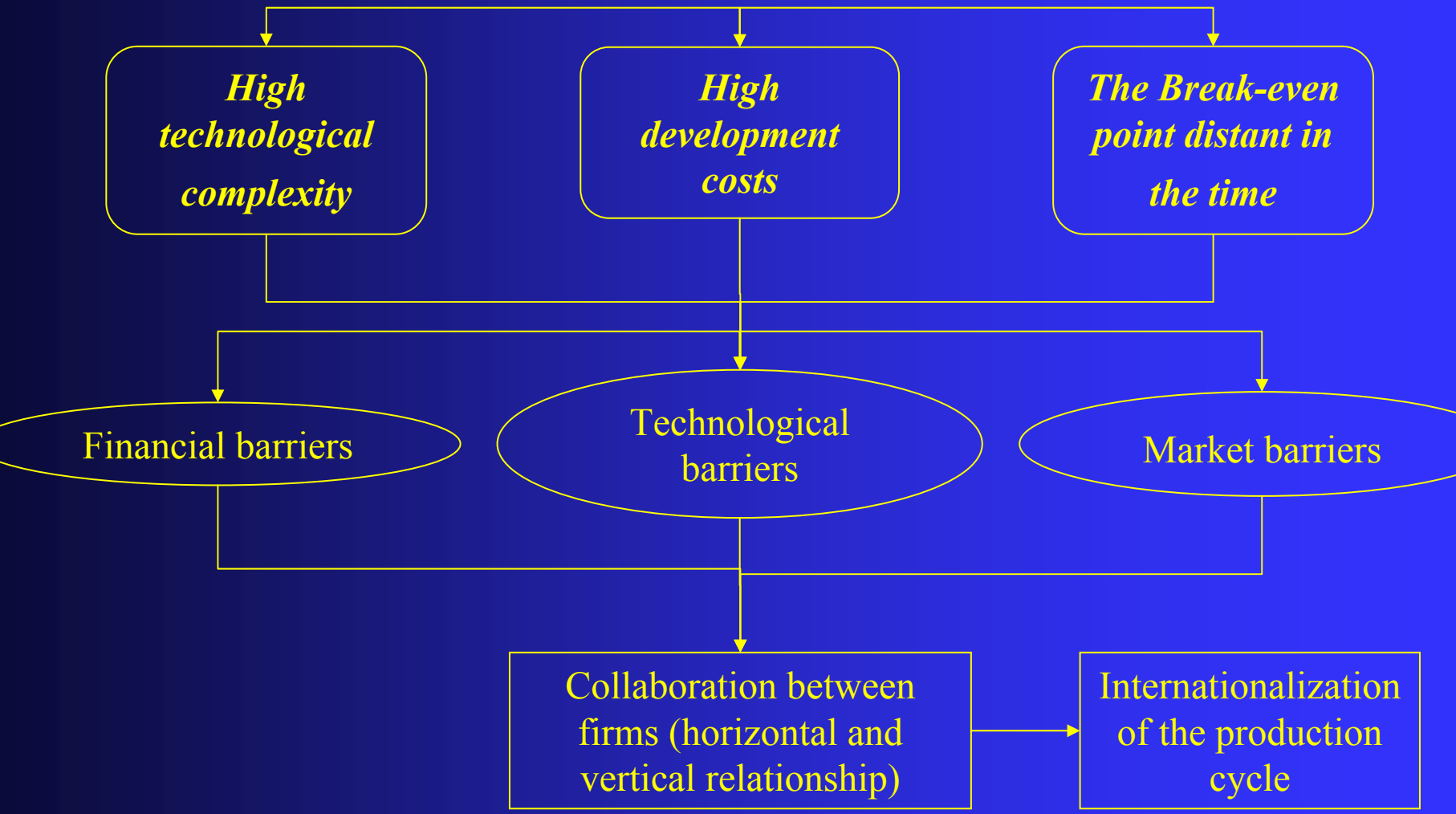
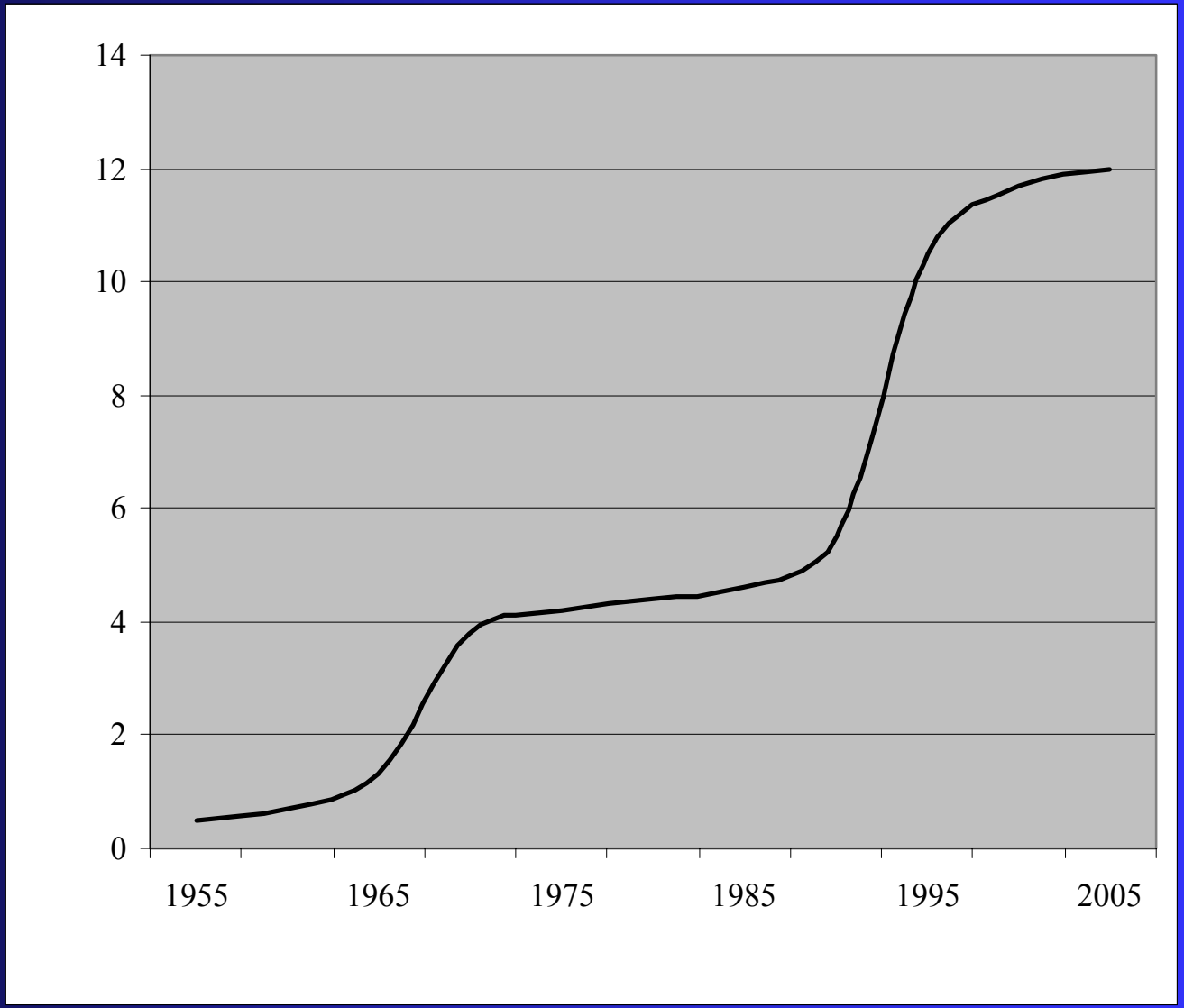
The forces in action in the aeronautical field 1/2



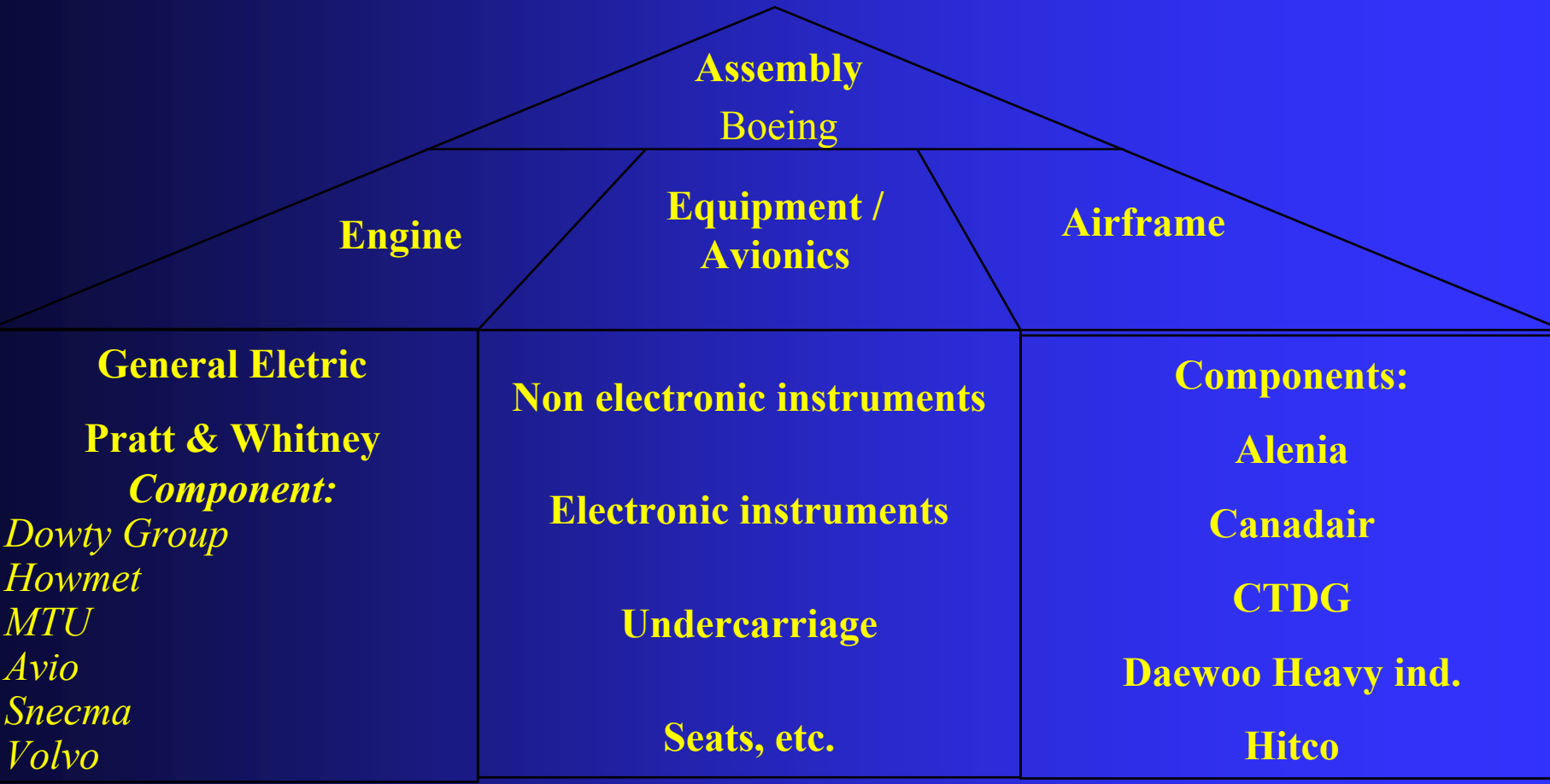
The forces in action in the aeronautical field 2/2

Airplane levelopme nt costs in bilion of US$



The organization of the aeronautical field 1/1

The Boeing B767 production pyramid



The Campania's cluster 1/3

- The process of globalization
  - ***Medium Enterprises** aim to increase the existing market as to establish directed relationships with international assemblers;*
  - ***Small Enterprises** has not an international market.*
- The innovation strategies
  - ***Medium Enterprises** managerial and organizational knowledge is more important than technical one for innovation;*
  - ***Small Enterprises** technical knowledge is most important for innovation*
  - *All firms present a strong focus on customer needs*

The Campania's cluster 2/3

- **The growth objectives**
  - ***All firms are in aim to increase own dimension in turnover and in employers terms;***
  - ***Employers' knowledge is central for growth;***
  - ***Formal education is below EU average but above Italian's SME average***
- **External relations and past firm performance**
  - ***Medium Enterprises good relation with all actors, sometime inadequate to support grown***
  - ***Small Enterprises good with few actors***
  - ***All enterprises present good internal relations***

The Campania's cluster 3/3

- **Key areas for the future performances**
  - ***new geographical market:* in foreign market (ME) and in national market (SE);**
  - ***human resource* is the most important resource for future performance and the local labour force is highly qualified, thanks also to the existence of an ancient and consolidated culture of aeronautical production in the territory**
  - ***job training and collective learning are strong but there is a low level of formal education, notwithstanding the great number of institutions in the field of education and research***

The innovation in the aeronautical field

Specialist Innovation originate in the individual technological areas. usually assumes the character of incremental innovation since it is part of an existing and already consolidated structure and it aims at partially modifying the performance of this latter.

System Innovation is the integration between the technical solutions (which can also be the result of specialist innovation) realized in the various technological areas and it generates a new product.

Kind of innovation in the cluster.

- **The specialist innovations like the systemic ones originate from the initiative of the enterprises responsible for the production programs. The customers drive the innovations and the SMEs are very little autonomous in deciding objectives of the innovation.**
- **The firms which are formally responsible for the aeronavigability certification of the products have greater freedom in innovation.**
- **The improvement of the existing processes resembles to a process of "routine innovation", as the requirements of the customer and the normative modifications involve an almost continuous redesign of the processes, that become "ordinary".**
- **In the small enterprises, the product innovation is virtually absent, with exception of new activities in different fields.**

Innovation opportunities and obstacles

- ***Small firms participate to the innovation processes initiated by the respective clients;***
- ***Small firms do not have the organizational capabilities to initiate and autonomously sustain projects leading to new products***
- ***Small firms have the access to qualified technical, organizational and managerial resources in the solution of already defined problems:***
- ***Small firms are reluctant to invest in innovation due to the lack of trust in the commitment of the larger firms;***
- ***Financial institutions appear unable to evaluate innovation projects and lack an industrial strategy in their investment.***

Territorial Knowledge Management

Conclusion

- ***While SMEs in Campania are capable to introduce technical innovation within the individual firm, they are unable to implement systemic innovation involving several firms, due to the lack of organizational and managerial capabilities;***

- ***The large national enterprise localized in Campania represent a stimulus to the innovation in the individual SMEs, but they are not willing to assume the function of leadership and to define an overall innovation strategy for the cluster;***

- ***Notwithstanding the wide range of policy instruments activated by the local institutions, the challenge of global competition indicates that a well focused and long term strategy for the SMEs in the aeronautic sector is still lacking.***

Thanks

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