



Fostering Regional Innovation and Development through Anchors and Networks: A Cross-Regional Comparison in an Evolving International Context.

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The anchoring process

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Fostering Regional Innovation and Development through
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Evolving International Context.

Outline

1. Data gathering and analysis
2. The anchors in Aviation Valley
3. Anchoring milestones
4. Major findings
5. Limitations



1. The Data 1/2

- The Katowice Unit has crafted a 5 parts questionnaire, including 70 questions on a Likert 7 – points scale.
- The survey adapted to empirical settings of the aviation industry in Poland has been composed of 5 sections:
 - (1) performance indicators,
 - (2) innovativeness,
 - (3) questionnaire,
 - (4) strategic paradoxes,
 - (5) proximity.
- Data collection numbers:
 - The package has been sent by regular mail to all 71 Aviation Valley,
 - A total number of 483 contacts: 8 interviews, 115 emails, 361 phone calls have been done,
 - 24 person-days of interviewing in site,
 - 2 AVA conferences attended
 - a response ratio of 24% for surveys.



1. The Data 2/2

- Qualitative Comparative Analysis, where dimensions are given by anchor's features in literature and empirical findings.
- Networks Analysis (restricted sample to AERONET, the research network connected to Aviation Valley Association).
- Descriptive statistics on the surveys show divergent results from qualitative analysis, while regressions are inconclusive.
- Event story development from qualitative data.





2. The Anchors in Aviation Valley 1/4





Anchors' features	WSK Rzeszów	PZL Świdnik	PZL Mielec	Rzeszów University of Technology	Avio Polska
1. Sets up the network	✓	X	X	✓	X
2. Capability builder	✓	X	X	✓	✓
3. Structuring and strategizing	✓	✓	✓	X	✓
4. Strategically central positions	✓	X	X	✓	X
5. Large locally developed	✓	✓	✓	✓	X
6. Heavily engaged in R&D activities	✓	✓	✓	✓	✓
7. Possessing a sufficient degree of absorptive capacity within a particular technological area	✓	✓	✓	✓	✓
8. Attracts skilled labor pools and specialized intermediate industries	✓	✓	✓	✓	✓
9. Provides knowledge spillovers	✓	✓	✓	✓	✓
10. Attracts scores of other firms to the clusters through the creation of a large labor pool of skilled workers	✓	X	✓	✓	✓
11. Innovative firm that stimulates the growth of many others	✓	✓	✓	✓	✓



2. The Anchors in Aviation Valley 3/4

What makes WSK Rzeszów (UTC) an anchor?

1. The owner of WSK PZL Rzeszów is UTC (United Technologies Corporation), whose investments helped to improve competitiveness and included the firm into a major **global supply chain**.
2. The company hires about **3600** employees and its current CEO is Marek Darecki who is also the president of Aviation Valley
3. Aviation Valley Association creation: as a pool of suppliers and specialized industries, but also a learning **network**. Provided: funds in early AVA years, personnel, office space. Decides on membership. Director interlock.
4. **Locally** grown, 70 yrs of history, now in a global corporation UTC.
5. **Network orchestrator** – uses university research, endorses public university research, spreads technology over the network (audits, trainings etc.)
6. Fosters specialized **labor pool** in the region through the funding and animating of numerical machines operators in professional high schools in the region (8 in total).

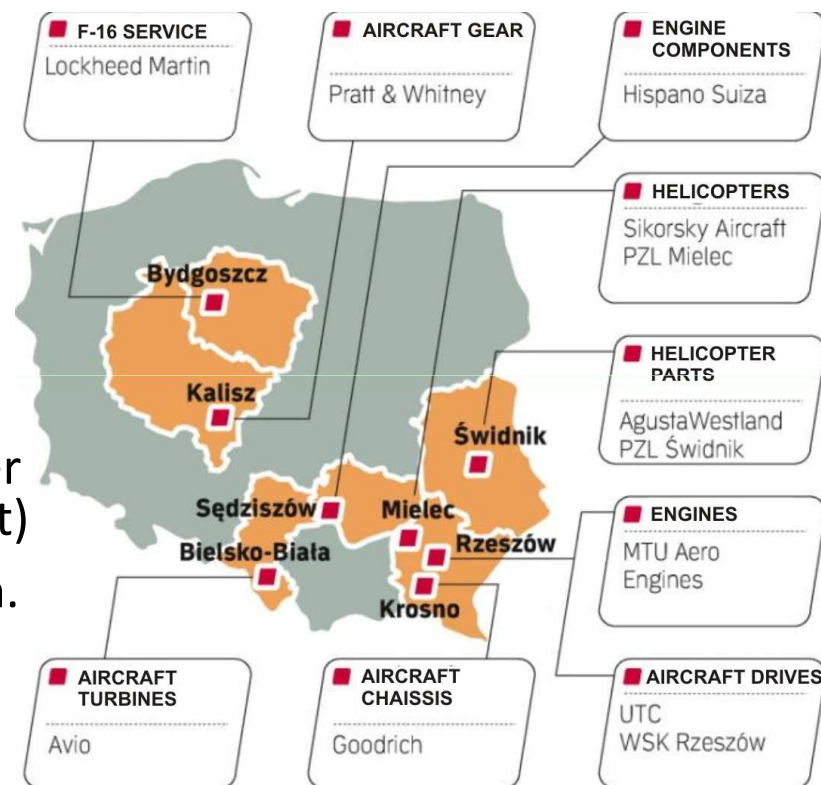




2. The Anchors in Aviation Valley 4/4

What does not make other players anchors?

1. **Strategic moves:** organic growth preference, final product suppliers.
2. **Rival** global corporation ownership (AgustaWestland or Finmeccanica).
3. Lack of personal **CEO commitment**.
4. **Isolation** from strong local university research (either in-house or spread over a network of universities at arms-length)
5. Local and regional **politics driven** action.



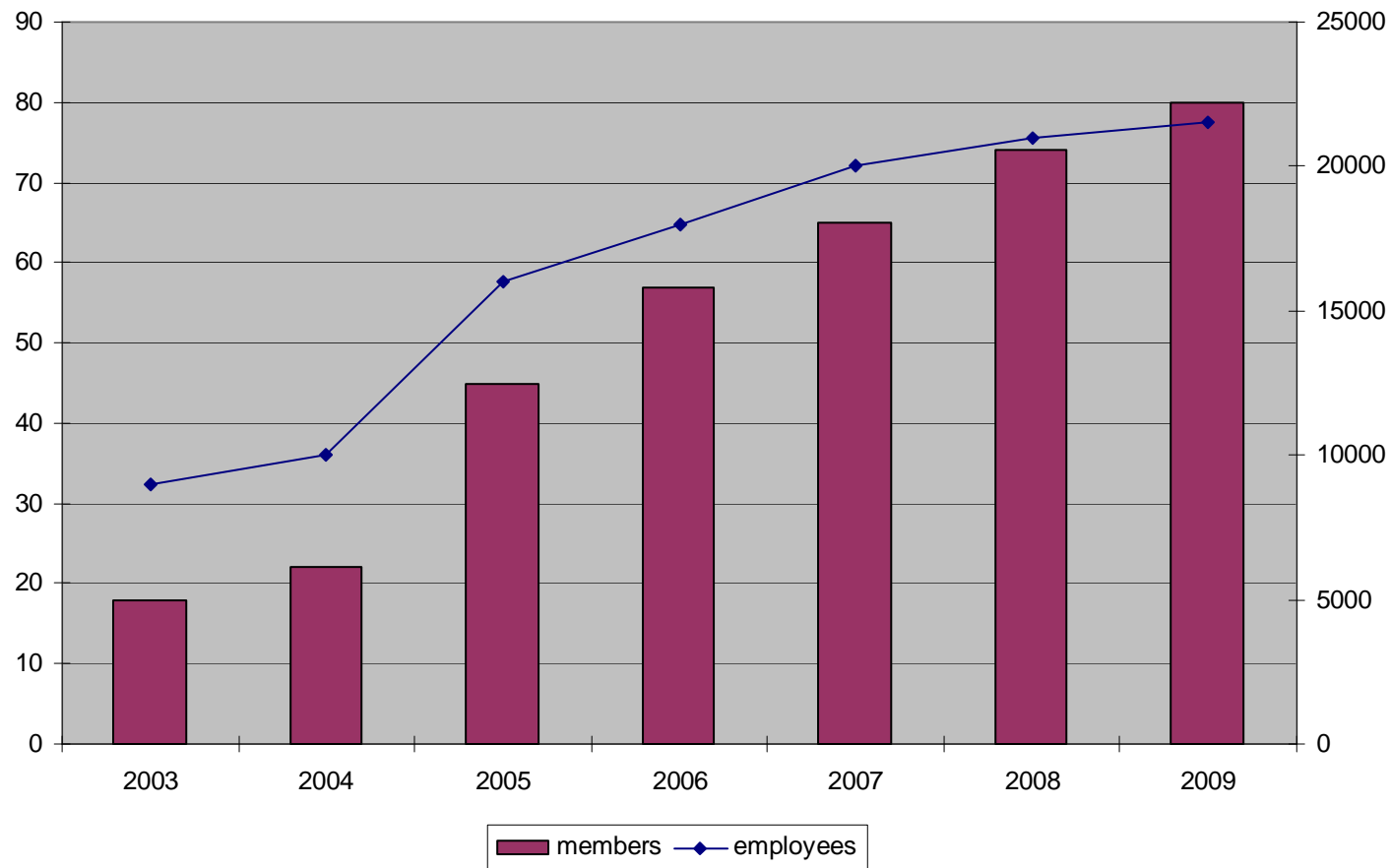


3. Anchoring milestones 1/4

1. **1937** – government decision to create an aviation engine factory, located in Rzeszów
2. **Post-1990** development: new supply chains and markets
3. **2002** – sale of 100% stake in WSK Rzeszów by Polish treasury to United Technologies Corporation (USA)
4. **2003** – creation of the Aviation Valley Association, firstly located in WSK Rzeszów offices
5. **2006-2008**: Foresight project „Directions in development of material technologies for the Aviation Valley Association
6. **2008**: Aerotrends conference Bilbao (AVA coorganizer)
7. **2009** Paris Air Show Le Bourget – Aviation Valley presence
8. **2010** ILA Berlin – AVA cofinanced presence



3. Anchoring milestones 2/4





3. Anchoring milestones 4/4

1. **Networking** the industry (2006 – 2011) – 6 projects, EU financed, national and international.
2. **Research facilities development** (2009-2012) – 5 projects, focus on laboratories development, total value 149 M€. (propulsion technologies, new materials, testing facilities, turbine flow aerodynamics).
3. **Skills** development – engineering internships, CNC operators in high-schools, centre for technology transfer implementation.
4. **New technologies** implementation (both machining and single crystal formation).





4. Major findings

1. The anchor ***does not stand alone*** – privileged relationships preexist both social, research and supply.
2. Anchoring is more than a phenomenon, it has been found to be a ***strategy***.
3. No anchors without networks, ***strong colocation*** effect and externalities.
4. Close collaboration with ***education and research*** public institutions:
 1. Skilled labor creation through deliberate action and resource commitment,
 2. Extensive research closely linked to product development.
5. Network ***institutions*** help – deliberate creation and operation of a suppliers network (AVA), research network (AERONET) followed by local nets and project-oriented ad hoc consortia.



5. Limitations

1. Mature, capital intensive, oligopolistic industry.
 2. Divergent results form qualitative and quantitative studies require further investigation.
 3. Anchor appearance and development captured, but no data on failure or major shakeouts.
 4. Patenting and product implementation very slow in aviation.
 5. High dependence on global corporate decisions.
 6. The crisis years show the need to diversify both in terms of customer (beyond WSK) and industry (beyond aviation – similar technology used in power generation).
 7. Very cohesive social network, critical insights relatively rare.
- An anchor isn't perfect:
 - the rope or chain sometimes breaks
 - the anchor itself loses touch with ground
 - the bottom of the sea becomes too deep
 - There is something on the other side of the rope – SME's, researchers etc.



Thank for your attention, any questions are welcome

