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FASE - Foersom Aero System Engineering

FASE Micro-copter

**C3L Presentation
2012-09-17**

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- Engineering and development in Luxembourg
- R&D services in software engineering and electronics
- MSc Engineering degree and 20 years of R&D engineering experience
- Master in Entrepreneurship and Innovation - Université du Luxembourg

Micro-copter - UAV

- VTOL - requires minimal space for take off and landing
- Agile flight
- Electrical drive - low noise
- 8 propellers - redundancy and lift power
- Easy to transport, quick to deploy



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Weather requirements

Wind up to 20 km/t (6 m/s) - OK

No flight possible:

- Rain
- Snow
- Fog
- Storm



Area requirements

- Defined landing zone of 10 * 10 m
- Close to intervention area
- GNSS reception



Camera pay-load

- Camera equipment - supplied by client
- Gimbal, active stabilised on 2 axis
- Max size: Width 175 mm, height 130 mm
- Up to 2.2 kg

Historical photo - Gen 1 - anno 2011



FASE micro-copter - Gen 2 - 2012



Flight

- Max flight time 10 to 20 mn, depending on pay-load
- Max height 100 m
- Stable in air - large model and powerful drive

MikroKopter

- Based on kit from MikroKopter DE
- Flight-Ctrl, Navi-Ctrl, Brushless Motor-Ctrl flexible and extensible
- Standard interfaces, well documented and partly open-source software

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Photo examples



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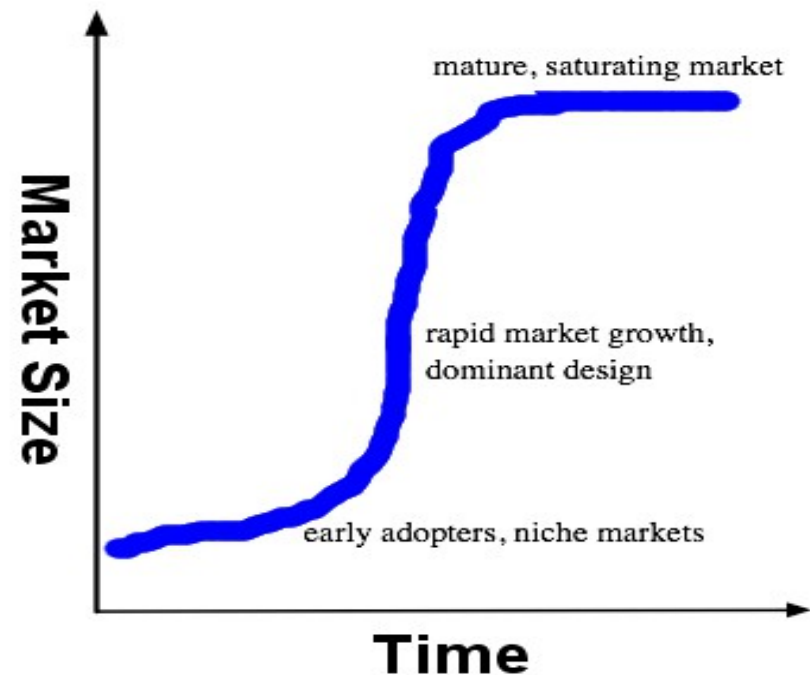


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**Entrepreneurship
&
Innovation**

Entrepreneurship

- Market analyse during MEI degree
- Start as service, longer term create product
- Small company, must start early
- Market S-curve

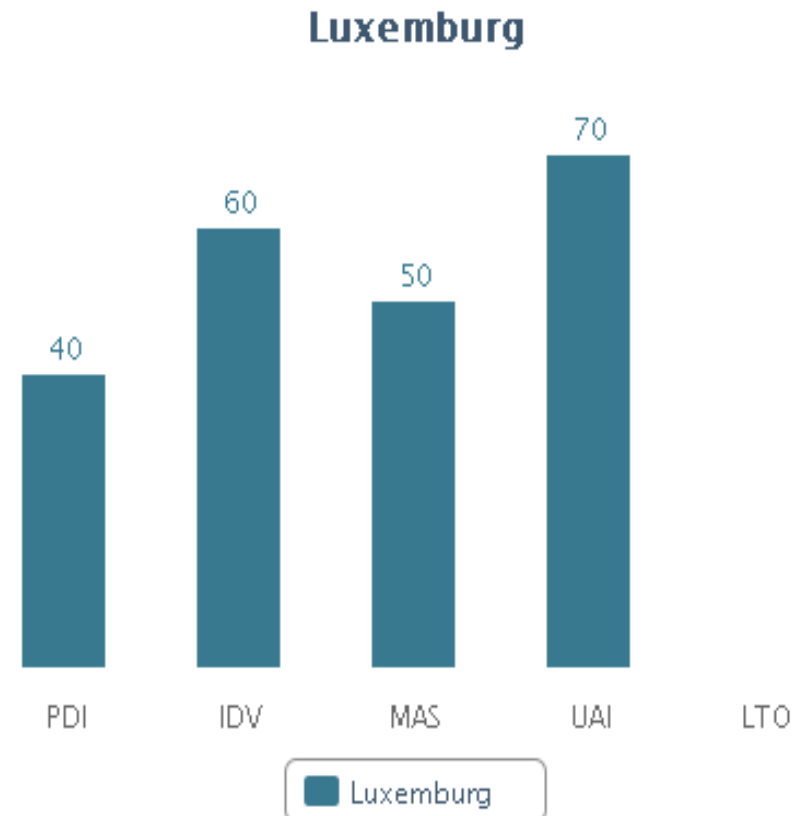


Selling in Luxembourg

- Know your customers
- Need to know people, personal contacts
- Takes time to build relationship
- Geert Hofstede - cultural dimensions

Cultural Dimensions - LU

- Power Distance (PDI)
- Individualism versus Collectivism (IDV)
- Masculinity versus Femininity (MAS)
- Uncertainty Avoidance (UAI)
- Long-term / short-term orientation (LTO)
- <<http://geert-hofstede.com/countries.html>>

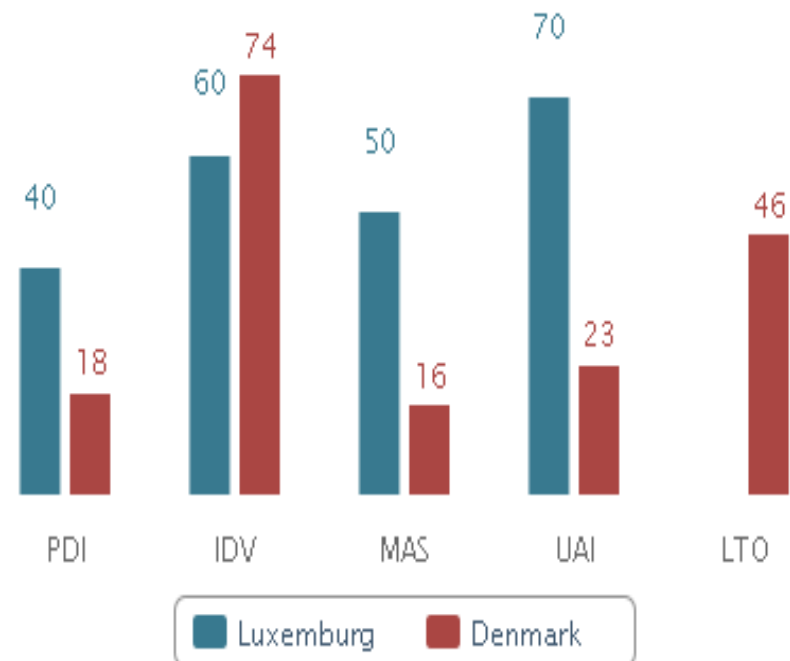


Cultural Dimensions - LU, DK

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Luxemburg

in comparison with the below



Marketing on a shoe-string budget

ICT-Spring 2012

<<http://ictspring.com/>>



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The Octo-Copter Has Landed



Questions?