

**10 years of experience working with  
Government R&D funding and industry from  
an academic & entrepreneurial perspective**

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## Short Background

- Two business units (Industrial, Space & Defense)
- Academic spin-off from Uppsala University, The Ångström Laboratory in 2005
- Privately owned SME company
- Based on 10 years collaborative research on nano/microtechnology for aerospace within Uppsala University, The Ångström Space Technology Centre (ÅSTC).
- Turn over ~3 M Euro
- Chairman, Mr. Staffan Junel (fm V.P. Ericsson)
- Internal clean room (class 100 and 1000) and assembly facility
- Located in Uppsala Science Park, Uppsala, Sweden

- Business with
  - U.S. Air Force
  - NASA
  - Small Business Innovation Research (SBIR, Phase I and II) program (US)
  - Small Business Technology Transfer (SSTR) program (US)
  - European Space Agency (ESA)
  - Swedish National Space Board (Rymdstyrelsen, SNSB)
  - Swedish Defence Material Administration (FMV)
  - BAE Systems
  - SAAB Aerosystems
  - Swedish Governmental Agency for Innovation Systems (VINNOVA)
  - Swedish Civil Contingencies Agency (MSB)
  - EC FP6 and FP7 (Space/GMES, EUROSTARS and EUROPIDES)
  - European Defence Agency (EDA/CAPTEC) R&D funding
- Other engagements
  - Industrial participation, Offset (SoFF/FMV)
  - Board member WISENET (VINNOVA Excellence Center)

## CONCLUSIONS / SUMMARY

- SME companies should NOT put any effort on EU/EC FP funding (unless maybe, just maybe EUROSTARS and always as participant, not lead)
- Large corporations and SME should not compete for the same R&D funding! i.e. separate like US SBIR, and 24% policy => which immediately stimulates the innovation dynamics.
- Many government institutions requires for R&D funding usually a project leader that is Assoc. Professor (Docent) or Ph.D. But, Researchers are often bad project managers! MSB only gives R&D funding to academia despite direct directive by Government to develop fast responses to crises !?!
- Government institutions usually require a big company for regular procurement (since they are more trustworthy suppliers), and hence, no small business can grow. Most SME's deliver in time and within budget (shown by U.S., Canada, and France).



- Extremely large administration/paper work (even in FP7). Low probability of funding
- Uncertainties between national agencies and FP7 offices
  - Recently ENIAC and Catrene programmes, Sweden Yes to ENIAC, France Yes to Catrene, Finland (Yes to what seem to be the best currently for our industry), Spain (wait and see, maybe later this year. Depends (on what remains to understand)
- Slow and random evaluation process (compare to the rigorous process by European Space Agency).
- Scientific merits very questionable!! Many quite bad proposals comes through. Virtually everyone exaccragtes tremendously the goals (because we don't win otherwise. No one follows up anyway. I.e. Science evalutation only before starting the project, not as follow-up at the end in addition to economic reporting)
- Pizza and beer in exotic places instead of hard outcomes

## Government Proposal effort comparison for 0.5 M€ R&D

Institution	EU FP7	ESA	SNSB	VINNOVA	FMV	MSB
Pages	100	75-100	18	10	10	15
Project Administration [FTE]	1.5	1	0.3	0.3	0.3	0.3
Evaluation Process time [Year]	1	0.6	0.2	0.6	0.3-0.8	0.6
Funding probability [%]	20%	40-60%	80%	35-40%	?	?
Scientific evaluation and technical follow-up	30%	90%	15%	5%	70%	5%
Special measures for SME/Non-Prime industry	Yes	Yes	No (0.5% yes)	No (< 5% yes)	No	No
IP regulation	100% company	ESA (exc. bkg IP)	100% company	100% company	Royalty + War time manufacturing	MSB (exc. Bkg IP)
Academia / Industry focus	50/50	0/100	20/80	50/50	20/80	100/0

# Innovation dynamics, European/Swedish catch 22



Contract from Government



Sales of higher value parts

SME can grow!  
Large innovation dynamic

U.S. SBIR

**!!! PROBLEM 1 !!!**

Large company uses SME as bank. 90 days payment periods + bulk payment at delivery

**!!! PROBLEM 2 !!!**

IP rights required by Large company

SME Participants

SME Participants



## Swedish "SBIR"

- VINNOVA "Forska & Väx"
- 100 MSEK / year!
  
- Perspective
- VINNOVA budget ~ 2,000 MSEK (5%)
- Swedish GNP ~2,800,000 MSEK (0.035%)
- Swedish National Space Board budget ~ 900 MSEK, SME "RyT" 5-10 MSEK / year, 1.1%
  
- US SBIR, 2.5% of EVERY GOVERNMENT DEPARTMENT BUDGET / year
- US government procurements, 24% of all procurement must be placed with SME





**[www.aacmicrotec.com](http://www.aacmicrotec.com)**

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