University Technology Transfer by means Startup

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DEPARTMENT OF COMPUTER SCIENCE
CZECH TECHNICAL UNIVERSITY IN PRAGUE

AI CENTER

university?

- Teaching
- Research
- Innovation

university? innovation?

- Teaching
- Research
- Innovation

- Research Grants
- Joint R&D
- Contracted R&D
- Startups

university?	innovation?	startups?
• Teaching • Research • Innovation	• Research Grants • Joint R&D • Contracted R&D • Startups	• Business idea • Technology • Research idea

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• Teaching	• Research Grants	• Business idea
• Research	• Joint R&D	• Technology
• Innovation	• Contracted R&D	• Research idea
	• Startups	

university? innovation? startups?

- Teaching
- Research
- Innovation

- Research Grants
- Joint R&D
- Contracted R&D
- Startups

- Business idea
- Technology
- Research idea

- **What can university do?**
  - actively seek for and advertise success stories
  - recruit mentors
  - cheap and easy licensing to authors
  - help with *bizdev*, help with *legal*, help with *venture funding*
- **What university must not do?**
  - take over and commercialise, negotiate for profit, be evil ...

Research Project

1. understand SOTA
2. nail down idea
3. formalize problem
4. design solution
5. prototype & evaluate
6. publish

Research Project	Startup Project
1. understand SOTA	1. understand tech/business
2. nail down idea	2. nail down idea
3. formalize problem	3. decide/focus on problem
4. design solution	4. design & pilot solution
5. prototype & evaluate	5. build solution
6. publish	6. sell to customers

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4. formalize problem	4. design & pilot solution
5. design solution	5. rise VC money
6. prototype & evaluate	6. build solution
7. publish	7. sell to customers

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10x – professorship – ERC grant	**10x** – IPO – acquisition

Research/Startup **INCUBATION**

AiCENTER

Foundations:

Computational Game Theory

Automated Planning

Machine Learning

Multiagent Simulation

Applications:

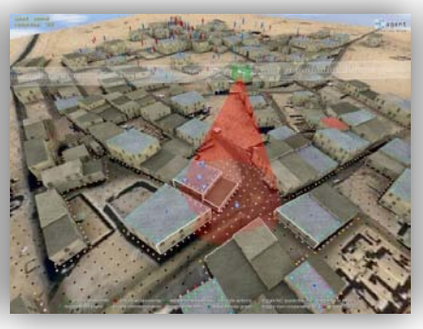
Intelligent Transportation Systems

Critical Infrastructure Protection

Computational Robotics

Cyber Security and Privacy

Next Gen. Production Planning




AiCENTER Portfolio

NejŘemeslníci

AGENTFLY

COSE
COGNITIVESECURITY

blind spot

meandair

Umotional

urbanalgorithmics

AiCENTER Portfolio

NejŘemeslníci	mgr
AGENTFLY	staff/phd
COSE COGNITIVESECURITY	staff
blind spot	staff/phd
meandair	staff
Umotional	staff/mgr
urbanalgorithmics	staff

AiCENTER Portfolio

NejŘemeslníci	mgr	1188
AGENTFLY	staff/phd	technology
COSE COGNITIVESECURITY	staff	CISCO
blind spot	staff/phd	pivoting
meandair	staff	incubated
Umotional	staff/mgr	product
urbanalgorithmics	staff	consultancy

AiCENTER Portfolio

NejŘemeslníci	mgr	1188	angel
AGENTFLY	staff/phd	technology	private
COSE COGNITIVESECURITY	staff	CISCO	venture
blind spot	staff/phd	pivoting	angel
meandair	staff	incubated	private
Umotional	staff/mgr	product	angel
urbanalgorithmics	staff	consultancy	private

AiCENTER Portfolio

NejŘemeslníci	mgr	1188	angel	no ip
AGENTFLY	staff/phd	technology	private	licence
COSE COGNITIVESECURITY	staff	CISCO	venture	licence
blind spot	staff/phd	pivoting	angel	no ip
meandair	staff	incubated	private	no ip
Umotional	staff/mgr	product	angel	OS
urbanalgorithmics	staff	consultancy	private	OS/licence

Statistics in conclusion

- 90% of Startups fail
- 74%, failed due to premature scaling.
- 62% of Startups fail due to co-founder conflicts
- 52% are less likely to scale prematurely if the startup has pivoted
- 50% face development problem
- 45% close their doors in six months
- 42% fail for “lack of a market need for their product”
- 30% struggle with time issue
- 30% fail because their management was not experienced enough
- 20% find their hang-up in sales and marketing
- 10% of Startsups succeed because they listen to change, stay flexible and know how to recover

Statistics in conclusion

- 80% successful Startups have multiple founders
- 68% of founders believe the odds of their success are better
- 48% of founders are between 35-44
- 29% are between 26-34
- 39% have experience as a Founder/CEO of another Startup
- 20% of founders who have failed on first, succeed on their second
- 10% of first time founder succeed
- Failed entrepreneurs who are funded by experienced VC firms have a 22.1% chance of succeeding
- First-time entrepreneurs have a 17.6% chance of succeeding when funded by more experienced VC firms
- Only 8% are female founders and 92% are male founders

Statistics in conclusion

- 1% of funding for Startups comes from VC firms
- 3% comes from Crowdsourcing
- 3% comes from banks
- 24% comes form friends and family
- 41% are funded by loans
- 41% are funded by lines of credit
- 80% are self-funded

Statistics in conclusion

- Unlike Bill Gates, Steve Jobs and Mark Zuckerberg
  95% of founders have university degree
- You're more likely to succeed if you've failed (20%) than if you've never tried (10%)
- Scaling too fast, too soon is the number one reason most new companies fail.
- Two founders, rather than one, significantly increases your odds of success.

Year	Total Companies Raising First Funding (Angel/Seed/Series A)	Number Of Those Companies That Became Unicorns	Unicorn Conversion Rate	Unicorn Sample
2008	1450	16	1.10%	MongoDB, Lyft, SunRun
2009	1405	18	1.28%	Zulily, Airbnb, DataLogix
2010	1843	21	1.14%	Stripe, Slack Technologies, Funding Circle
2011	2690	16	0.59%	Warby Parker, Hortonworks, ContextLogic
2012	3663	9	0.25%	Instacart, Snapchat, Qualtrics
2013	3984	9	0.23%	Zenefits, Airwatch, Juno Therapeutics
2014	4018	6	0.15%	Magic Leap, Adyen, DJI Innovations

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