




European Clearing House for Open Robotics Development Plus Plus

A large, faint, light-gray version of the ECHORD++ logo is positioned on the left side of the slide, serving as a background element.

From Project to Successful Product /
Service: Starting and Growing a
Business

Geoff Pegman

R U Robots

CEA Saclay / 16th January 2015

Overview

- Why start a business?
- The market
- The entrepreneur
- The idealised start-up cycle
- Types of start-up
- Barriers to market
- Finding (and keeping) customers
- Sources of finance
- Getting your idea across
- The business plan
- Lean start-ups
- Tips and hints



Why Start a Business

- To become a millionaire?
- I'm a control freak?
- I don't have any other attractive options?
- I want to build a long term future?
- I want to see my ideas actually make a difference
- I want to be involved with the big picture
- I want to be in control of my own destiny

The Downsides

- Job security (little to none)
- Initial rewards (low)
- (Lack of) support facilities
- Home / work life balance
- No natural mentoring
- Doing things for the first time and being expected to get them right
- Staffing
- Customers
- Finance

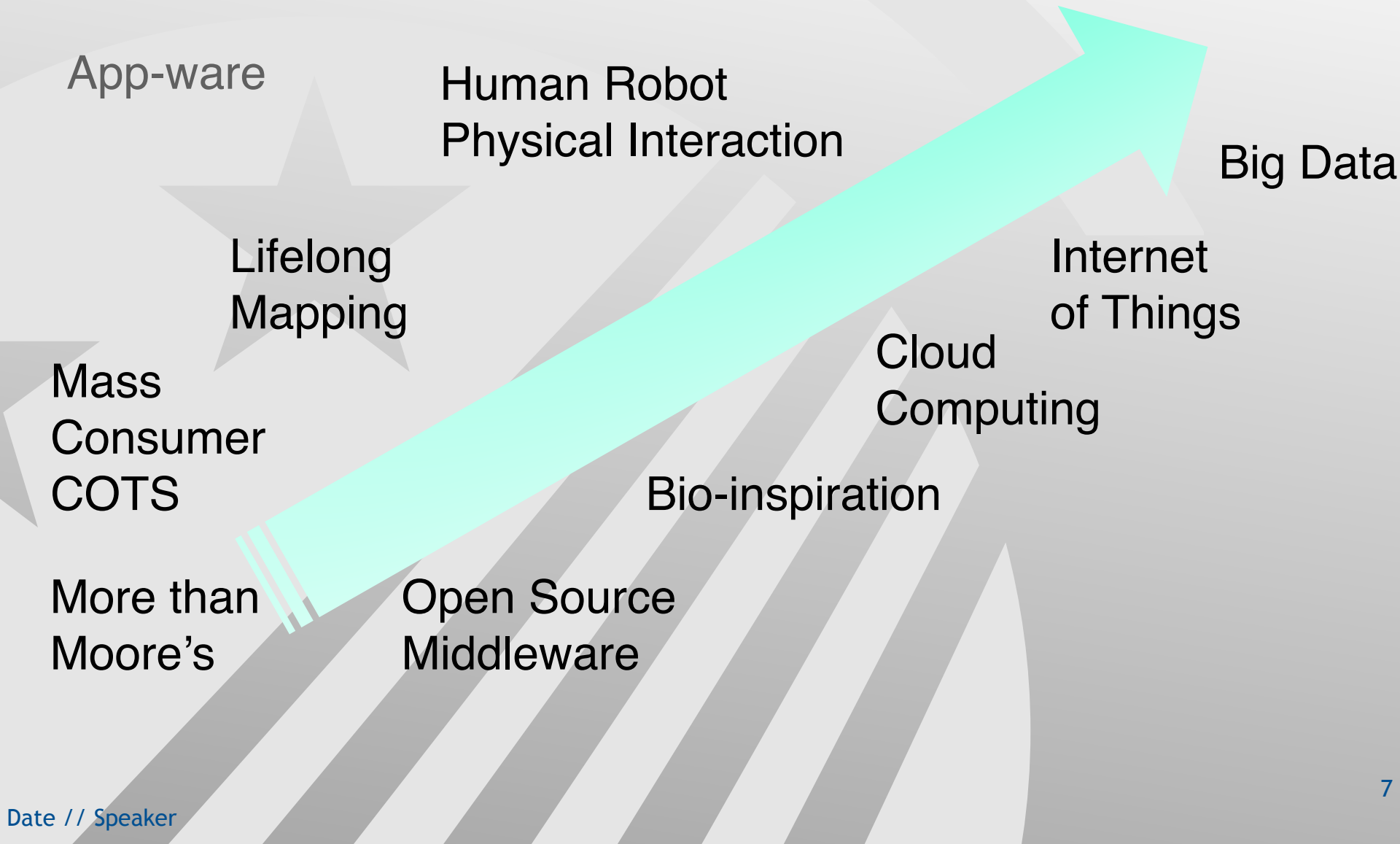
Career Choices

- Recent job survey states 77% of workers regret job choice
 - 35% boredom
 - 31% not lucrative enough
 - 7% long hours

The Robotics Market

- Not a single market but a (massive) set of diverse markets defined by technology
- Diverse customers
- Generally niche markets
 - Only small companies are currently viable in many markets
- Tendency to be disruptive
- Growing strongly
- Emerging market in robotic components

Robotics Megatrends



Analysing the Market Space

- PESTLE
 - Political, Economic, Social, Technological, Legal, Environmental
- Porters Five Forces
 - Bargaining Power of suppliers
 - Bargaining power of buyers
 - Threat of new entrants
 - Threat of substitutes
 - Industry rivalry

The Entrepreneur

- Passionate
- Risk taking
- Patient
- Opportunistic
- Prepared to make enemies (Market disruption)
- Self-belief
- Flexible (Prepared to adapt to the market)

The Start Up Cycle (Idealised)

- Founding stage
 - Entrepreneur begins with vision and 100% share
 - Self funded
- Seed stage
 - Staff join via friends and associates for cash salary + share of company
 - VCs provide funding in return for share of company

The Startup Stage (Idealised)

- Growth stage
 - Market(s) develop
 - More staff, mainly salary
 - More funding but with small (or no) equity stake
- Exit stage
 - Entrepreneur can sell equity: IPO / M&A
 - Ownership of company changes
 - Entrepreneur either leaves or takes management role

Types of High Technology Startups

- Market oriented
 - Growth oriented, leveraged from start
 - Can be customer funded (but unusual)
 - Addressing gap in the marketplace
- Technology / Idea oriented
 - "Shoestring" budget
 - (Part) Grant /project funded
 - Cross subsidy ("I've got a nice job in the university anyway")
 - Addressing the application of cool technology

Challenges and Barriers

Technical
Challenges

Commercial,
Legal & Social

Expectations &
Hype

Technology
Push

System
Complexity &
Cost

Unrelated
Markets

Lack of Real Mass Markets

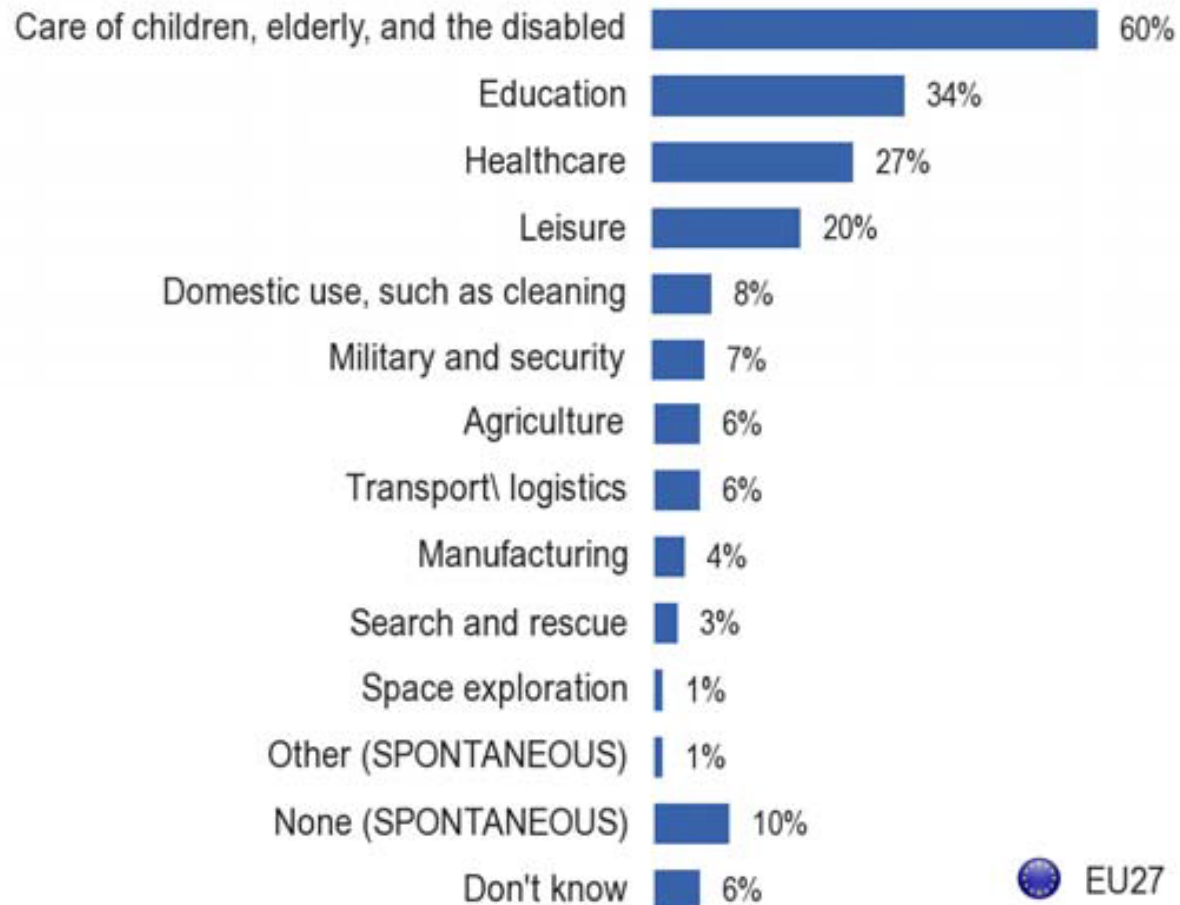


EuroBarometer Survey 2012

- EC initiated study
- European citizens attitudes to robots
- 26,751 respondents
- Across EU27 countries
- Provides ground truth rather than assumptions
- One question:
 - "Which application areas of robotics should be banned"

EuroBarometer Survey 2012

QA7. And on the other hand, in which areas do you think that the use of robots should be banned?



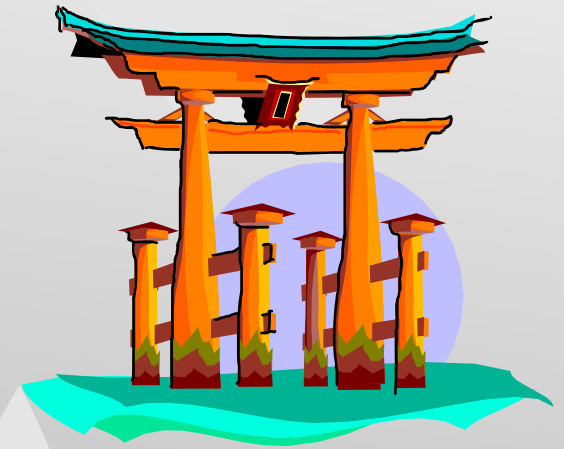
Routes to Mass Market



Organic



Migration



Gateway



Killer

Finding Initial Customers

Technology Driven

- Technology scope
- What markets could it fit
- Examine barriers to entry
- Identify target customer and initial product outline
- Discuss value proposition / benefits with customer
- Develop product outline
- Industry projects can be a good way into this even with sub-optimal industry targeting

Finding Initial Customers

Serial Entrepreneur

- Network
- Identify high value customer need
- Network again
- Find technology solution

Keeping Customers

- Maintain continuous dialogue with customer
- Be responsive to customer feedback
 - Particularly "nice to haves"
- Be aware of wider problems / areas of improvement in the business
 - Ask customers what takes the most of their time / is their areas that need improving the most

Sources of Finance

- Founding stage:
 - Personal savings
 - 3 Fs: "Family, Friends and Fools"
 - Government grants & loans
 - Regional funds
 - Companies (spin outs)
 - Crowd funding

Sources of Finance

- Seed stage:
 - Business Angels
 - Venture Capital
 - Robolution Capital
 - Customers
 - Preferred supplier
 - Corporate venturing
 - Government schemes: Pre-Commercial Procurement
 - EC: H2020 Dedicated SME Instrument
 - Profits

Sources of Finance

- Growth stage:
 - Growth
 - Further PV rounds
 - Profits
 - Operations
 - Banks
 - Factoring agents
 - Profits
 - Credit policy

Getting Your Ideas Across

- Short
- To the point
- Customised to your audience
- Think of the desired outcome
- Appeal to the emotion
 - Data can follow when engagement has been achieved
- An "elevator pitch"
- Longer version look to PechaKucha
 - 20 slides, 20 seconds each
- Avoid "Death by PowerPoint"

The Business Plan

- The people
 - Who are you?
 - Why should anyone believe in you and your staff?
- The customers
 - Who is your product or service aimed at?
 - Who are the important customers?
- The value proposition
 - What is the value of your product / service for your customer
 - What problem does it solve for them?

The Business Plan

- Customer Relationships
 - What relationship do you have with your customer (and how strong is it)?
 - What is the cost of maintaining that relationship?
- Distribution channels
 - Which ones are currently used?
 - Which ones will you use?
 - Why?
- Activities
 - What are the key activities your company carries out?
 - What value do they add?

The Business Plan

- Key partnerships
 - Who are the key partners and suppliers?
 - What activities do they perform?
 - Could they be replaced & at what cost?
 - How strong is the relationship?
- Key resources (including IPR)
 - Which are the key resources required for operations?
 - Are they internal or external?
 - How secure are they?

The Business Plan

- Cost structure of the business
 - What are the key costs in the business plan?
 - What are the costs of key resources; which are most expensive
- Revenue Streams
 - What are customers **really** willing to pay?
 - What are the contributions of the various revenue streams?
 - When are these revenue streams expected?

The Business Plan

- Balance Sheet and Profit and Loss Forecast
 - A spreadsheet of inflows and outflows that certainly won't happen and nobody believes anyway
 - But it has to look viable and you have to be able to justify each underlying assumption
 - Even better if you can "stress test" the plan

Lean Startups

- Minimum viable product
- Continuous deployment
- Split testing
- Actionable metrics
 - Not vanity metrics
- Pivot
 - Planned course correction

Hints and Tips

- Network!
 - Look for workshops with industrial involvement, e.g European Robotics Forum
 - Local business networks
 - Entrepreneurship events
- Think and talk benefits not technology
- Few companies end up with the same product and market they first thought they would serve
- Making money may mean abandoning your pet technology
- ALL your customers think they work in a conservative industry
 - Individual and corporate trust are important factors to address
- Some people are only suited to certain phases of a company's development

Hints and Tips

- Cash flow is the king
- Research and production operations don't mix well
- Competitors can be collaborators
- Seek support from others who have started companies
 - They don't have to be in high tech
 - Could be a business angel
 - Could be a personal coach

Thank you.

THE END

The ECHORD Plus Plus Consortium acknowledges support by the European Commission under FP7 contract 601116.