

Can Scientists and Engineers Become Entrepreneurs?

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ENTREPRENEURSHIP FOR SCIENTISTS AND ENGINEERS

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What is an Entrepreneur?

An entrepreneur is someone who takes an idea, develops a business around it, manages the business and assumes the risk involved in making a profit.


Ray Dolby

Physicist/Entrepreneur



Ray Dolby

- Received a B.S. in electrical engineering from Stanford University in 1957 and a Ph.D. in physics from Cambridge University in 1961
- Ray Dolby has been inducted into the National Inventors Hall of Fame in recognition of his invention of Dolby noise reduction



S. Raghu

Physicist Entrepreneur



Attributes of Inventors

Curiosity

Problem solving skills

Reasoning skills

Numerical ability

Persistence

Ambition

Missing – Financial Acumen

Attributes of Entrepreneurs

- Do I enjoy being in charge?
- Can I hire and fire others?
- Can I delegate work?
- Can I motivate people?
- Can I negotiate and compromise?
- Do you have the persistence to achieve your goal?

Incomplete Data

- Scientists and engineers are used to making decisions based on complete data.
- An entrepreneur has to make the decision to start a company on incomplete data.

YOU HAVE TO TAKE A RISK

Innovation Driven Start-ups

Your invention is your major asset

You need...

CUSTOMERS!

(and they won't beat a path
to your door)

Market Survey

Options

Sell your idea

Sell your invention

Start a company

An Idea or Invention you can sell?

New battery technology – UK Innovate
£250million over 5 years

Faraday battery challenge: clean and flexible energy

To improve air quality for people in the UK and cut emissions, government's [clean growth strategy](#) commits to ending the sale of new conventional petrol and diesel cars and vans by 2040.

The automotive industry is now faced with the challenge of transitioning from internal combustion engines to full electrification and zero emission - a market that is estimated to be worth £5 billion in the UK and £50 billion across Europe by 2025. To power the next generation of electric vehicles, we need cost-effective, high performance, durable, safe, low weight, and recyclable batteries.

This challenge will support the design, development and manufacture of batteries for the electrification of vehicles. It will tackle air pollution, as well as enable UK businesses to make the most of the opportunities presented by the low carbon economy.

Government will invest £246 million over 4 years in research, development and scale-up facilities. The potential GVA to the UK economy is estimated to be £33 billion each year up to 2050.

Management Team VS The Brilliant Idea

Business Plan

- Executive Summary
- The Business
- Management Team
- The Market
- Marketing Plan
- R&D
- Barriers and Risks
- Exit
- Financials

Fund Raising

It's about...

You

The Management Team

Who will be the Entrepreneur?

Value Yourself

Act as an Entrepreneur

Value Your IP

- How unique is your IP – competitors?
- Years of patent protection pre-launch
- Compare with potential royalty income
- Get independent advice

Overview

- Yes, scientists and engineers can be entrepreneurs
- Do you have the personality?
- Your idea is your principle asset
- Decide on your exit strategy
- Become skilled at fund raising
- Learn to live with risk