



# STARTING A COMPANY AND STUFF

MARK MANN

# ABOUT ME

- PhD and Postdoc in Nanotechnology

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NEWS LIVE BBC NEWS CHANNEL

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In pictures: Engineering photo contest



This tiny structure is made up of carbon nanotubes and zinc oxide nanowires grown on a silicon substrate. The photo was taken with a scanning electron microscope.

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Image 2 of 7 HIDE CAPTIONS START SLIDESHOW





## ESCAPE!

- I joined the BBC's R&D Department as a trainee.
- Learnt how to do software engineering and dress like a Teenage Mutant Ninja Turtle.



BETA

# BBC R&D PROJECTS

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## halfRF HD/UHD radio

Transmitting spectrally-efficient HD/UHD video from

Project from 2009 - present

### Introduction

Halving the bandwidth required for video transmission over input Multiple-output (MIMO) wireless technology



|| ▶)

### What we're doing

Broadcasting High Definition (HD) programmes is fast becoming standard. To meet the level of quality our audiences expect from the BBC it is now possible for all production teams to have HD capability at their disposal, via halfRF HD/UHD radio transmitters and wireless cameras in the studio and on location.





Inkpath



OxVent

A social enterprise for mechanical ventilation  
Scientists | Clinicians | Manufacturers

COMPANIES I HELPED  
TO START

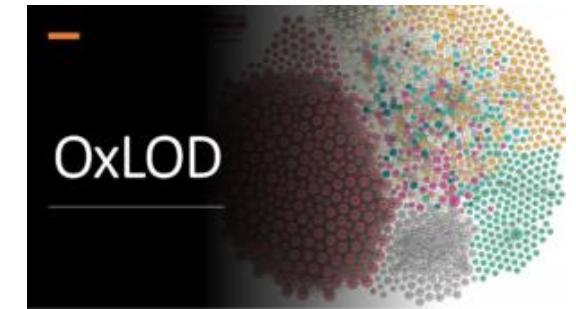
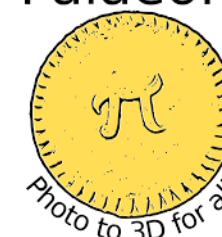
THEY ARE ALL VERY  
DIFFERENT FROM EACH  
OTHER



ROGUE INTERROBANG



PalaeoPi





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## SUMMARY OF THIS AFTERNOON

- What on earth is a company? What are they for?
- Why would you want to do one and when?
- How do you start one and what part do you play in it?
- What are the different types of company?
- Dos and don'ts.

PS – obviously we have attendees from across Europe and I will need to make sweeping generalisations about companies which may not work in every jurisdiction.

# LEGAL ENTITIES

- When you want to do something for someone else you can either do so as an individual or as a team.
- When you are doing it as a team you need to have some form of agreement between team members to determine who is responsible for what and to set out how decisions are made.
- This is normally written down in a document that everyone signs.
- The thing you create may be an organisation of some sort.
- An organisation will have governing documents, which puts in writing how the organisation functions. This can be called a Charter, a Constitution, Bylaws (USA), Articles of Association etc.



# COMPANIES

- A company is one form of organisation where one or a number of people work towards a goal, usually selling a product, or selection of products over and over again.
- A company has a publicly available governing document which states who controls it, how, and broadly sets out how decisions are made in it.
- This is often complimented with another (private) document which deals with more private matters between the controllers of the company setting out how more mundane decisions are made in the company, more clearly defined.
- The company is the legal entity through which organisations sign contracts such as employment, suppliers, selling products or services. The agreement is with the company as the legal entity and with whoever/whatever the agreement is involved.



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# **DECISION MAKING IN A COMPANY THERE IS FLEXIBILITY**

**CEO**

**Day to day**

**Board of Directors**

**Biggish decisions**

**Membership/Shareholders**    **Biggest decisions**

What is a day to day decision? What is a big decision?

How many have to agree? 100%? 75%? 51%? Does someone have a veto?

Who goes on the board and for how long?





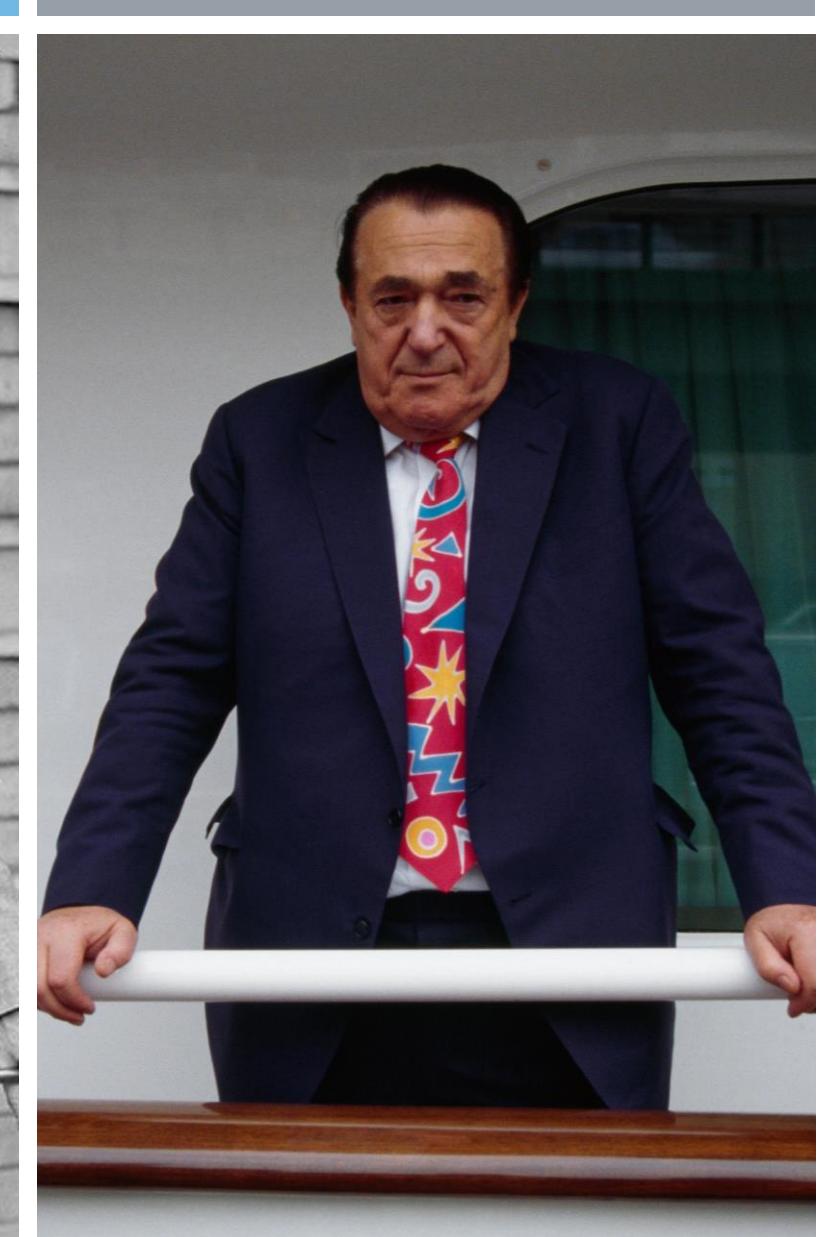
## WHAT ARE COMPANIES REALLY FOR?

- Companies are there to determine who goes to prison when something goes wrong.
- They protect customers of the company, suppliers of the company and the members of the company.
- It would be unfair to send everyone to prison every time something goes wrong, which is why being in a company LIMITS what you are responsible for.
- In the UK, companies are normally called XXXX Limited. The limited means *limited liability* – i.e. it limits what you are responsible for if things go wrong.



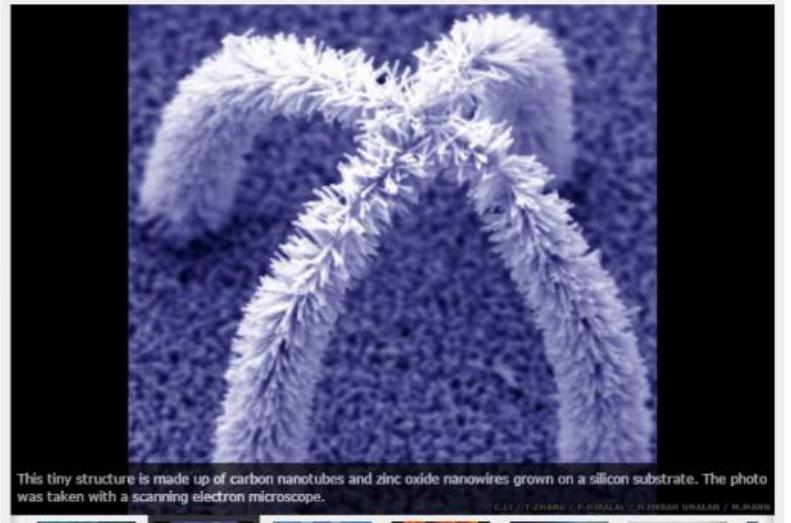
## HURRAY! THIS MEANS I CAN'T GO TO PRISON IF I HAVE A COMPANY?

- No.
- If you do something which is illegal then you will still go to prison. Examples are:
  - Killing someone deliberately or through negligence.
  - Selling something you don't own (fraud).
  - Stealing things.
  - Signing a contract when you know you are not going to have the money to pay for it.
- If you can demonstrate you have followed the rules, you won't go to prison.





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[E-mail this to a friend](#)**In pictures: Engineering photo contest**

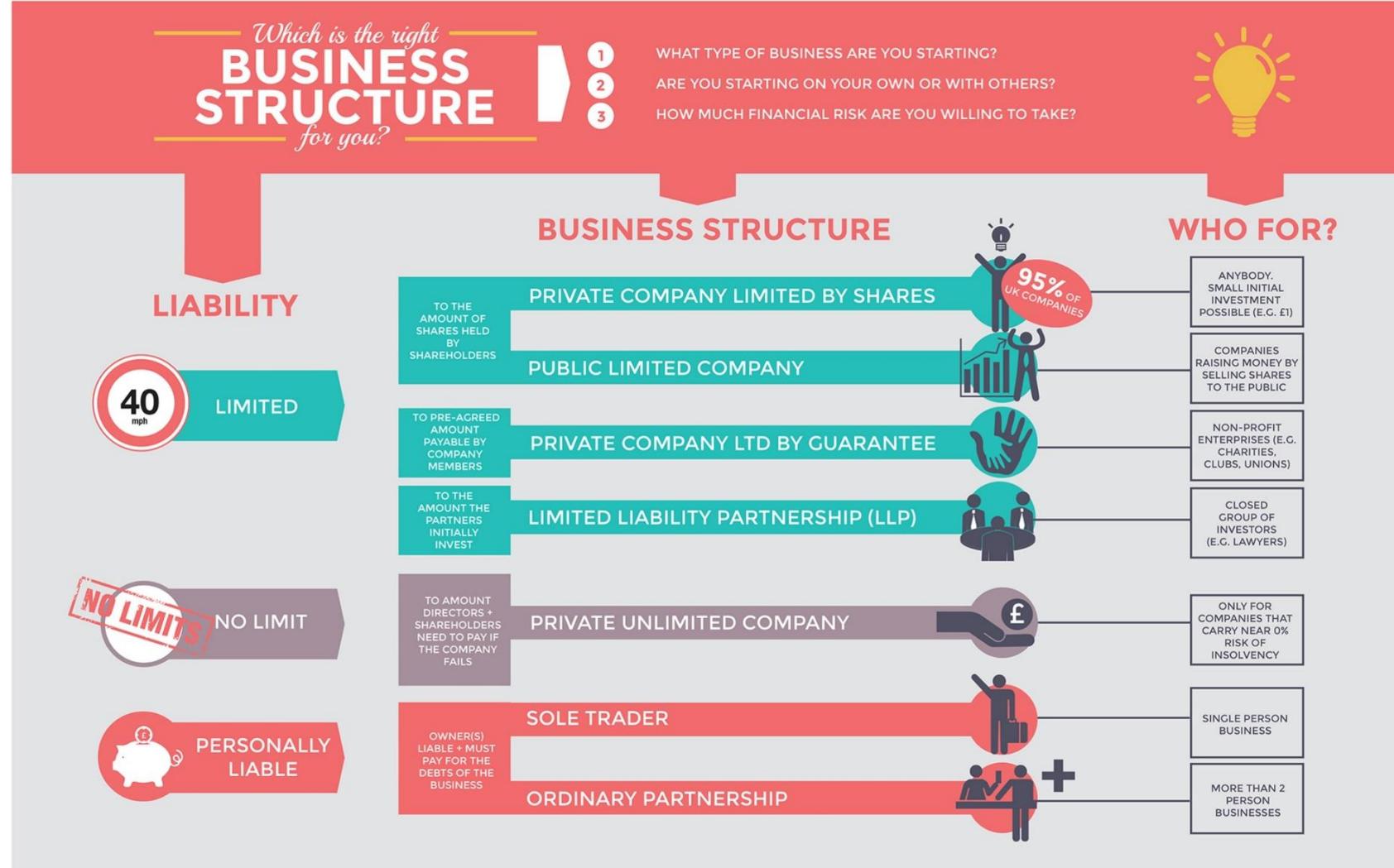
## EXAMPLE

- A company in America asked me how to do things that looked similar to the thing in the top picture.
- It involved using equipment with dangerous gases and high voltages and electric currents.
- I had a few consultations with them and they asked me to invoice for it.
- I never did. Why?
- There was no contract stating what liability there was – i.e. who would be responsible if someone took my advice and accidentally blew themselves up?
- If there was, as it is a big company, they would have said “yours,” or you don’t get any money.
- If I took their money and someone was injured as a result of my advice, they could have sued me for damages and if it was with me as an individual, I could have lost my house.
- If instead you wrap up the liability in a company and insure against that liability, you would not lose your house if you haven’t broken a more serious law, though you might lose your company.



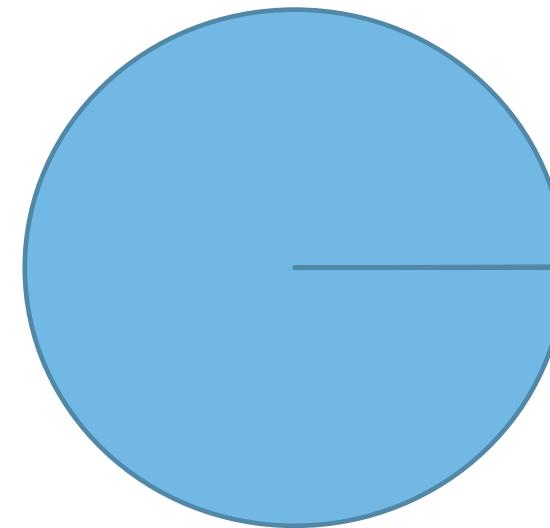
# THE DIFFERENT TYPES OF BUSINESS STRUCTURES

- This is UK-focused, but you will have the equivalents in your own countries.
- There will be additional legal forms of company in your individual countries such as:
- Cooperatives
- Associations
- Clubs
- etc



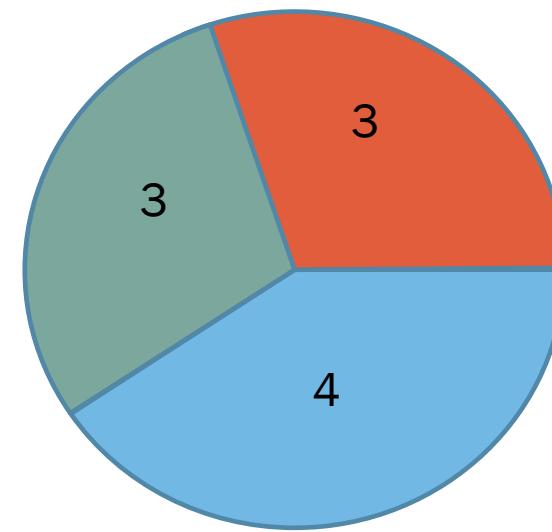
# SHARES COMPANIES

- A shares company is a company you can start from nothing.
- In its most basic form you can have one shareholder and one share and if you are starting the company, you get to choose.
- You register the company and start a bank account for the company.
- You set the price for how much it costs as it is yours. Typical amount in the UK is £1. So you pay £1 from your own bank account into the company's bank account to pay for your share.



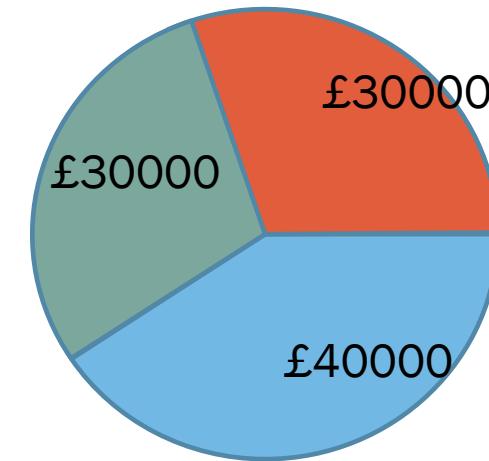
# SHARES COMPANIES

- Instead of one person, you might want say 3 people starting a company.
- Between you, you agree what share everyone gets. You might want to split it 30:30:40.
- So you create 10 shares, 2 people get 3 shares each, the other gets 4 shares.
- Again, you set the price for how much it costs as it is your company. So at a share price of £1 you pay £3 or £4 from your own bank account into the company's bank account to pay for your shares, depending on who you are.



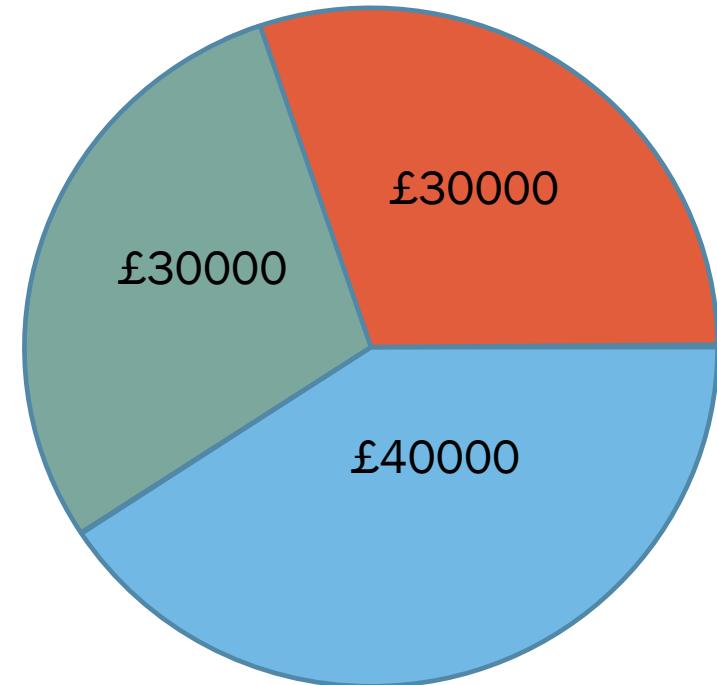
# COMPANY GROWTH

- As more and more products are sold and more profits are made, the value of the company, and therefore the shares grows.
- As a rule of thumb (and there is huge variation), the value of your company is roughly 3-5 times your annual turnover (which is the amount of money you bring in during a year). But valuation varies depending on profit levels, sector, “stickiness” of your customers...
- If the company makes a profit, the directors decide how much of the money stays in the company, and how much can be taken out of the company in the form of dividends.
- Dividends are paid proportionately to how many shares you own.
- So you can either pay yourself a wage from your company, or you can pay yourself in dividends, or a mixture of both.

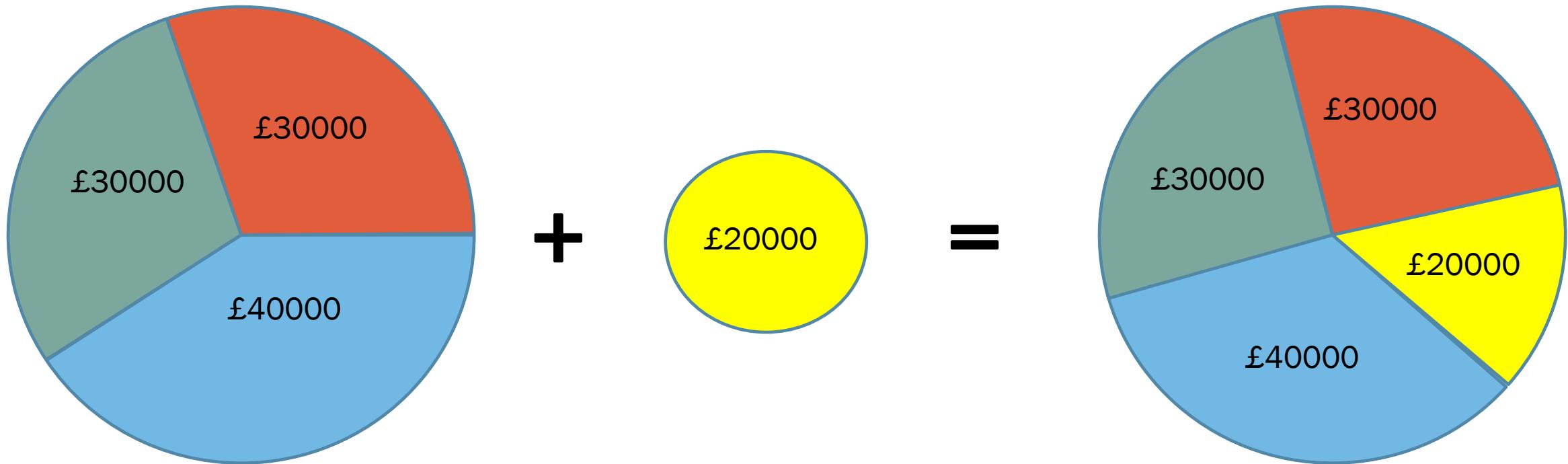


# INVESTMENT

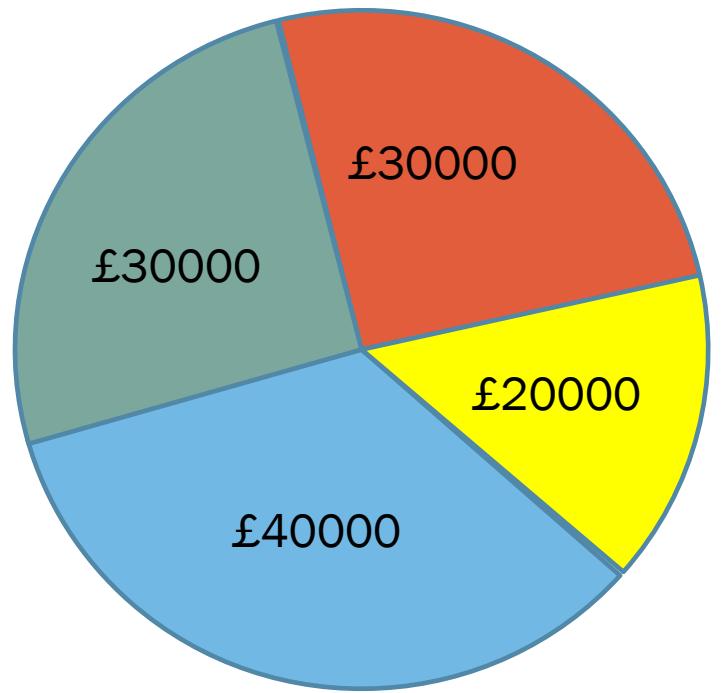
- You might decide that you want to expand your business and to do that you need more funding than you bring in by selling products.
- You only do this if you think you can make the business grow more than the money you need to put in.
- You can get this money in a number of ways:
- Someone could give you it (a grant or donation)
- Someone could lend you the money (a loan from a bank)
- Someone could invest in your company (you sell a new person or organisation new shares that you create)



## INVESTMENT 2

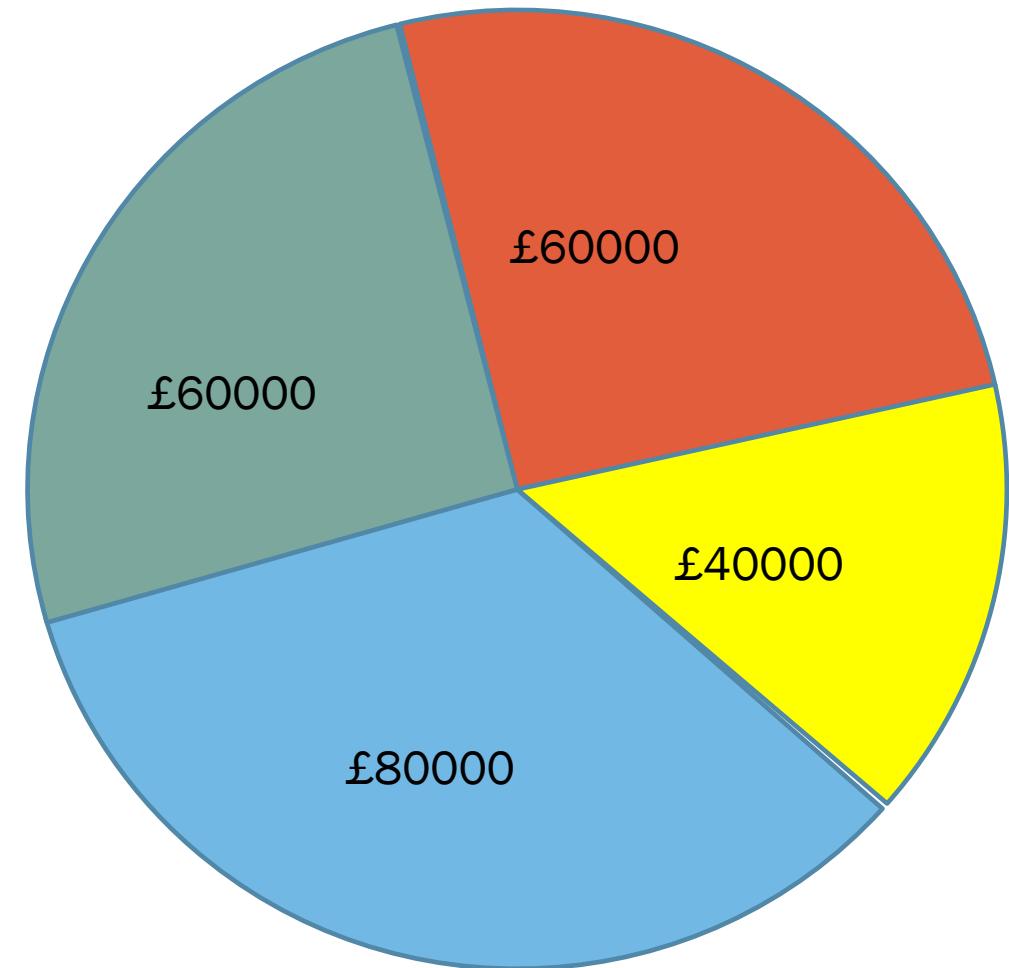


## INVESTMENT 3

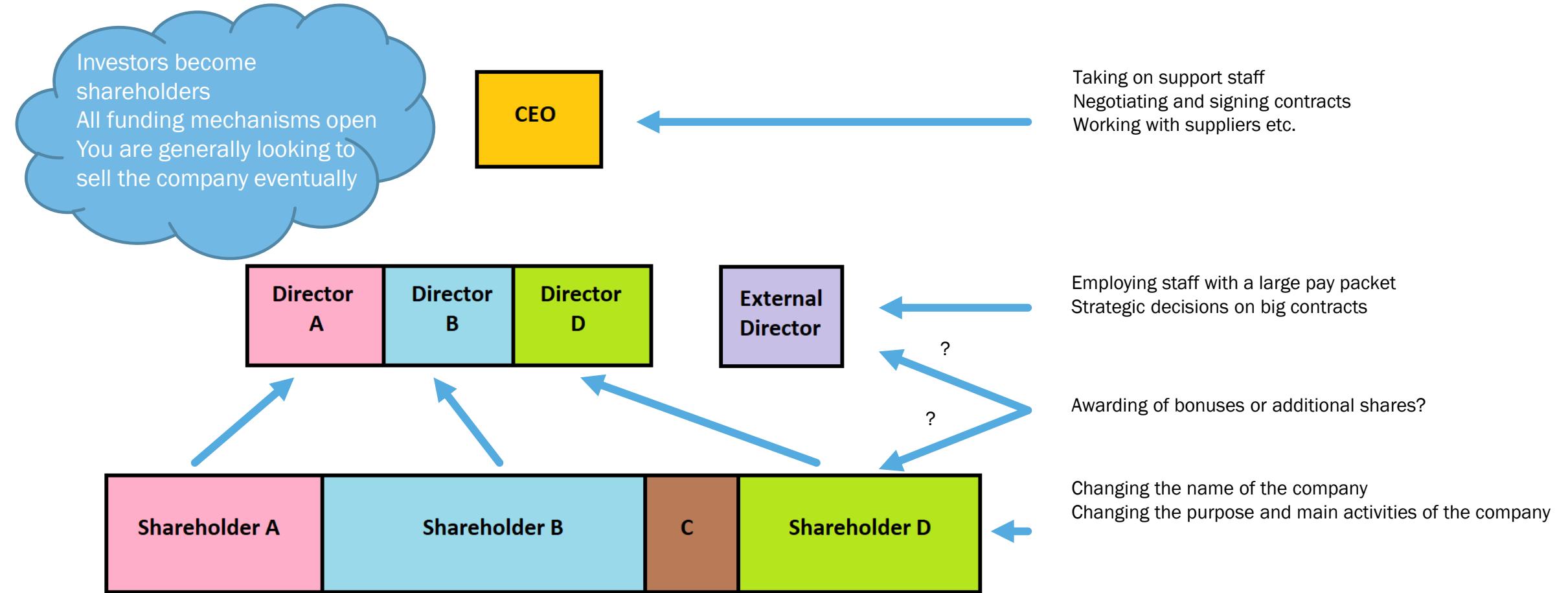


Spend the investment  
money & hopefully...

$$\times 2 =$$



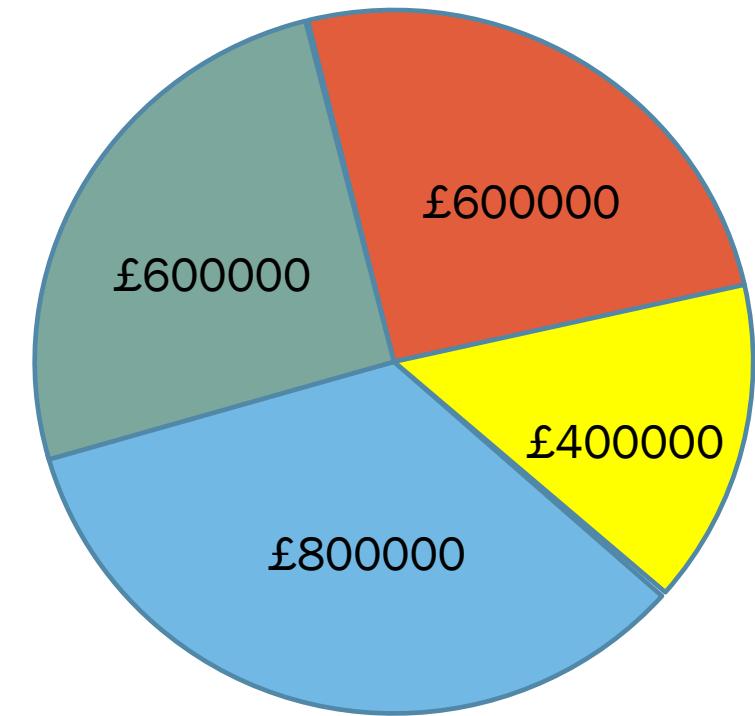
# DECISION MAKING IN COMPANIES LIMITED BY SHARES



Investors can have disproportionate power, but are bound by the social purpose. That is why the protected clause is important.

# SELLING THE COMPANY

- At some point in the future you might all decide you've had enough and you want to sell the company to someone else to run.
- Alternatively, a bigger company might look at you, think you're great and ask to buy it so they can absorb you into their business. This is known as a takeover, or "exit."
- As part of the deal you may be asked to join the board of directors of the bigger company.
- Alternatively they may ask you to go away and leave them to it; you take your money and run.
- Valuation here is £2.4m. Big company pays £2.4m and you each get the value of your shares.
- Investor happy because £20000 has become £400000.
- Founders happy as £3 has become £600000.



# THE STOCK MARKET

- The other way to “exit” a company is to “list” it on a stock market. You convert it into a PLC (a Public Limited Company) or equivalent.
- This stops your company being private. This means complete strangers can buy shares in your company and you have to share far more about the inner workings of your company.
- You would do this if your company was worth a few hundred million euros and you wanted to raise millions more in cash.
- You lose control of your share price. Your shares are traded and the company value goes up and down based on its financial performance.
- You can also sell your own shares and if the value shoots up when your company lists, you can make a LOT of money.

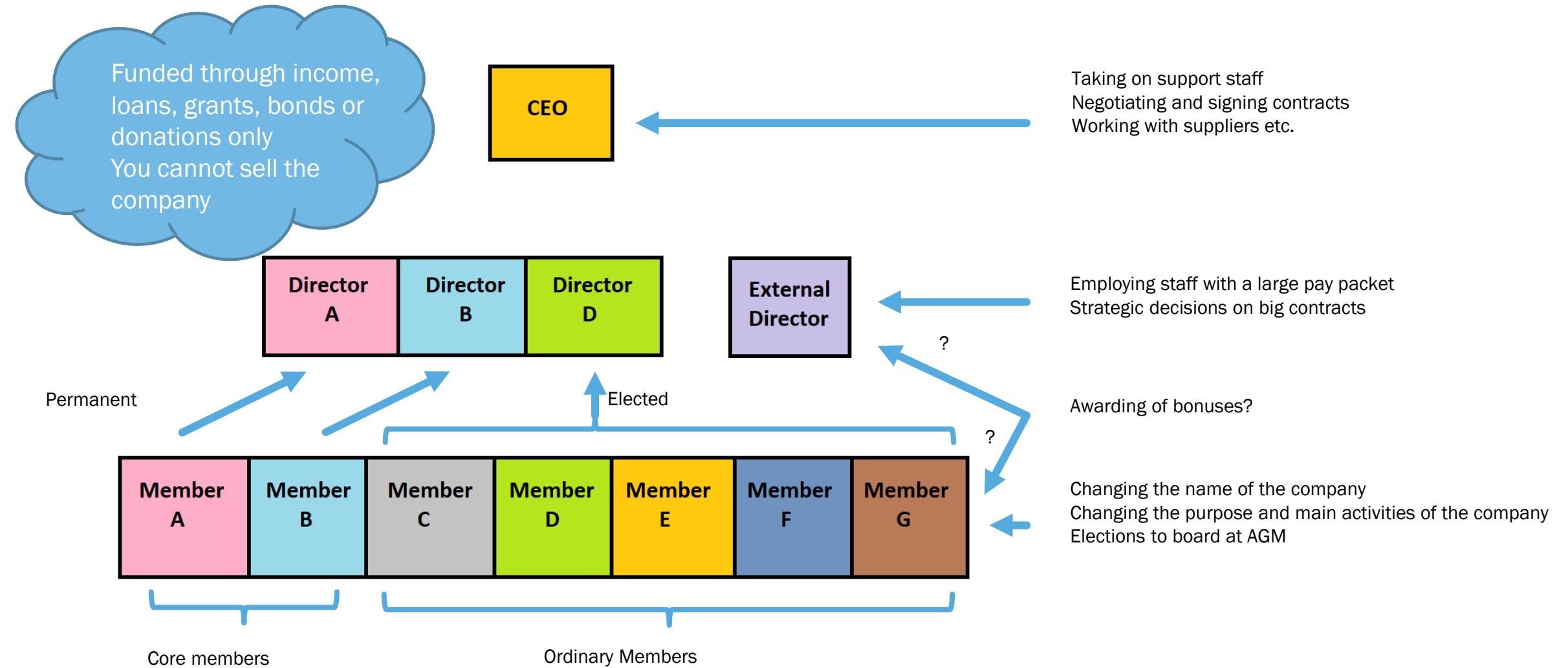


# GUARANTEED COMPANIES – MEMBERSHIP COMPANIES

- This type of company does not have a shares.
- The company operates in much the same was as a shares company. It has directors, a CEO, and the members have the same rights as shareholders would in a shares company.
- Members give a nominal guarantee to cover the company's liability, normally limited to £1 in the UK.
- By not having a shares, these companies are traditionally associated with charities, trade associations and not-for-profit companies.
- It isn't a company which can be sold like a shares company.
- It can be wound up, and all its assets sold or transferred to something or someone else.
- It means you can't raise money through investment. Only grants, donations and loans are available.



# COMPANIES LIMITED BY GUARANTEE



# SOLE TRADER

- Something you would typically do if you were working by yourself and the risk is low.
- Plumbers, electricians, gardeners, freelance artists, etc who don't expect to earn a terrific amount of money doing what they do and aren't likely to be sued if something goes wrong will operate as a sole trader.
- In most countries it is the most tax efficient way to operate, however
- When a company goes bust, these are the people that suffer the most. You could fix a boiler for a company, issue a 60 day invoice, the company goes bust in that time and you don't get paid.
- When my football club went bust, lots of sole traders lost a lot of money because they didn't get paid.
- Remember, this is the one you lose your house on if something does go badly wrong.

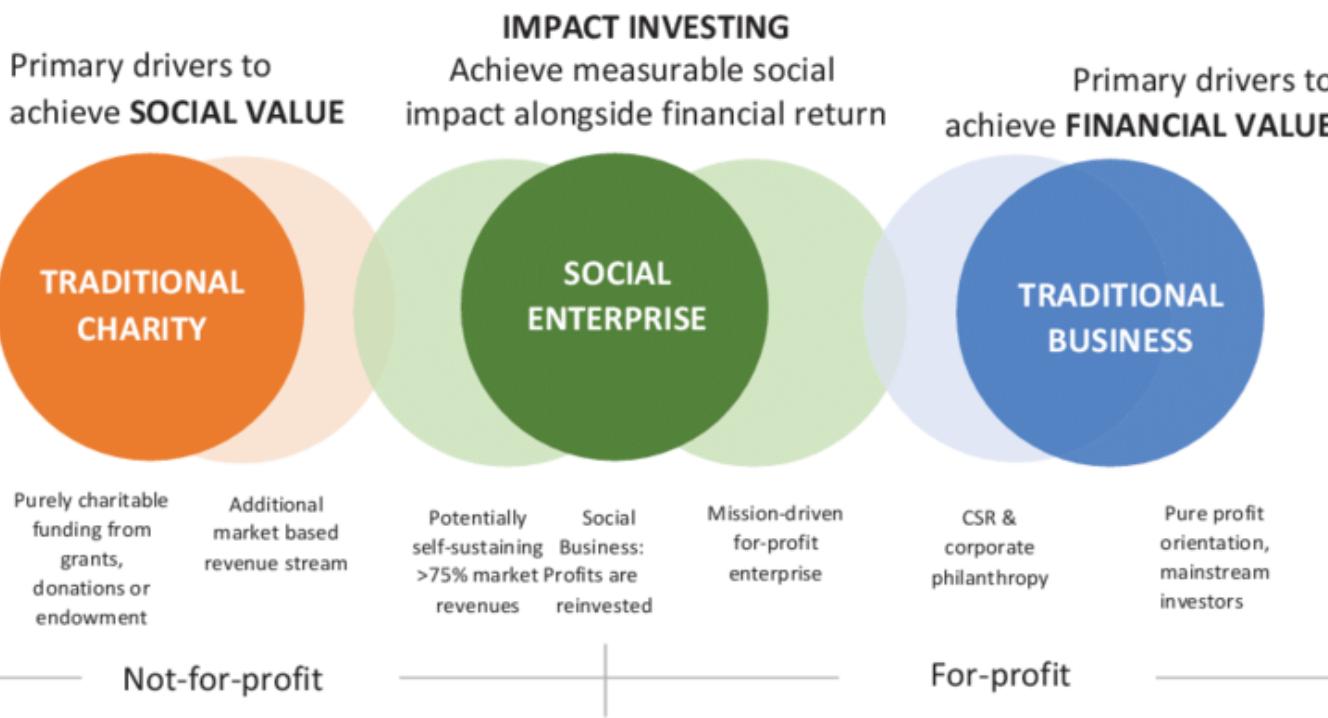


**SOCIAL  
ENTERPRISE**

**WE'RE A**

**BUSINESS WHERE SOCIETY PROFITS**

# COMPANIES



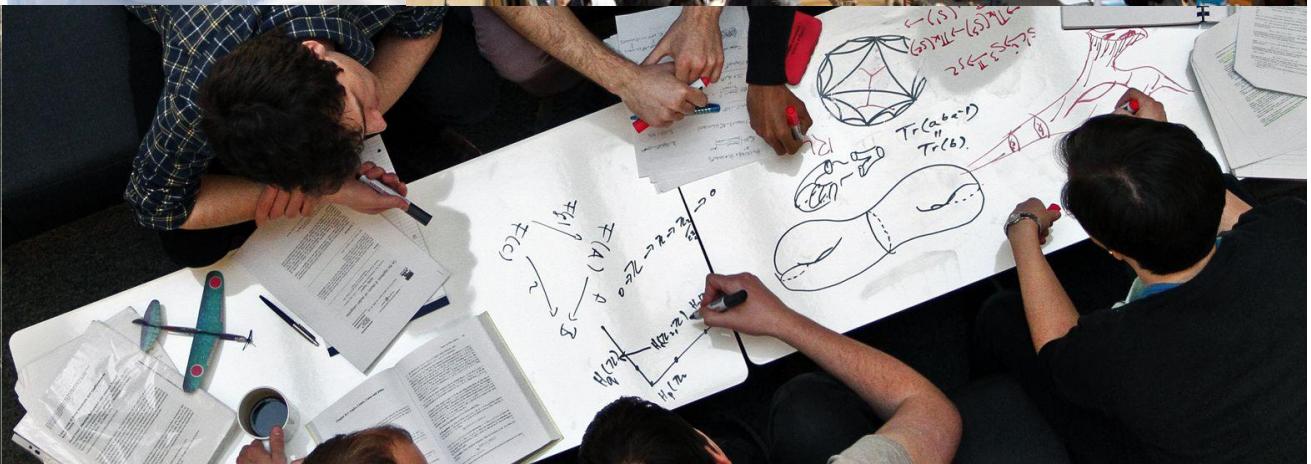
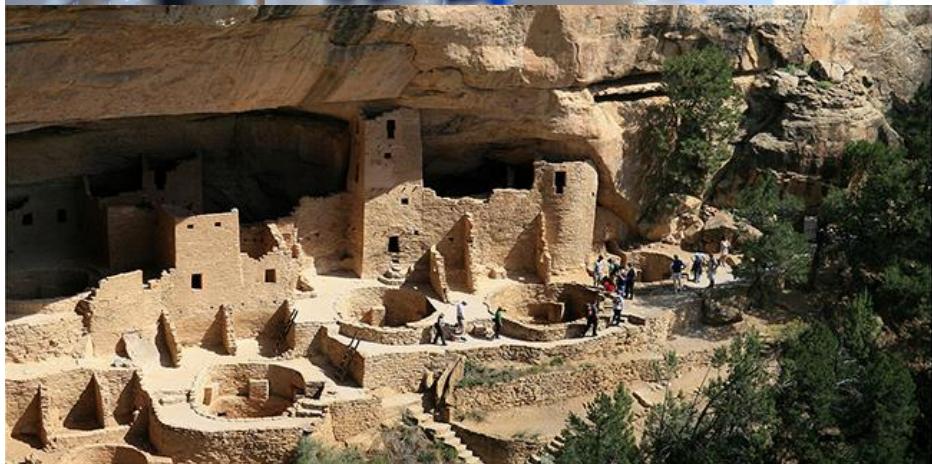
There are different types of company and the type of company you get depends on the constitution you create.

A mainstream business is a company with shareholders

A charity is a company with members

A social enterprise is a company with either shareholders or members depending what type you choose when you form it.

# SOCIAL ENTERPRISE CAN BE APPLIED ANYWHERE FROM HI-TECH TO SERVICES



# SO SOCIAL ENTERPRISE GIVES YOU CHOICE?

- Yes.
- There are many types of social enterprise which means there is argument over what the precise definition is.
- However, it is NOT a charity and it is NOT a mainstream business in which consideration is only made for maximising a financial return to its shareholders.
- It is generally agreed that a social enterprise or social venture must have a mission statement which isn't purely financial and in which that mission statement binds the directors of the company to make a positive impact alongside financial sustainability of the company.
- What this means is that you can craft the type of social enterprise to fit with your project, rather than “shoe-horn” your proposed activities to fit with mainstream business or charities



# WHAT IS A SOCIAL ENTERPRISE?

## PS: THIS IS MY DEFINITION

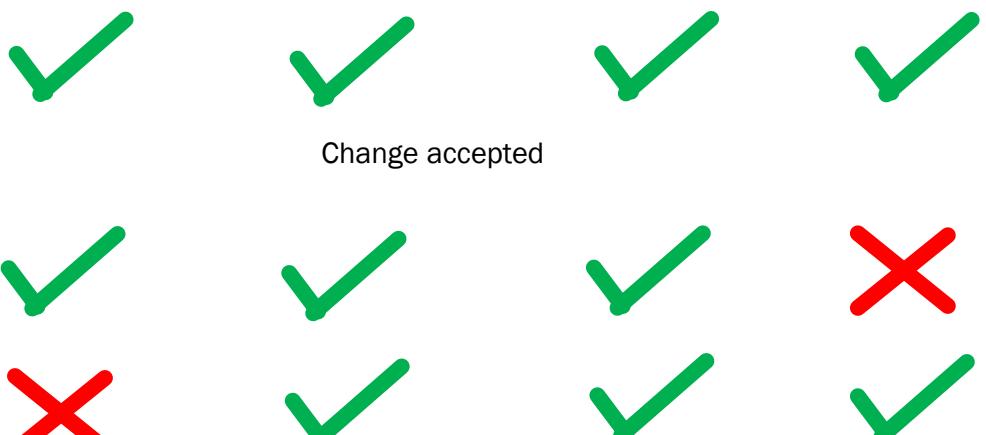
- A social enterprise is a **business** that applies commercial strategies to maximize improvements in **financial, cultural, social and environmental well-being**—this may include maximizing social impact alongside profits for external shareholders.
- Specifically, this purpose is enshrined in a clause in the Articles of Association of the **business** where each of the Founders has the power of veto over changing it.
- **It is not:**
  - A charity
  - Something that **won't make any money**.
- It might however:
  - Be a “not for profit”
  - Return money to a University Department to do more research
  - Not “make enough money” for mainstream VCs to be interested in it.



# PROTECTING THE PURPOSE

Want to change the purpose?

Founder A Chief Scientist	Founder B CEO	Founder C Professor	Founder D University
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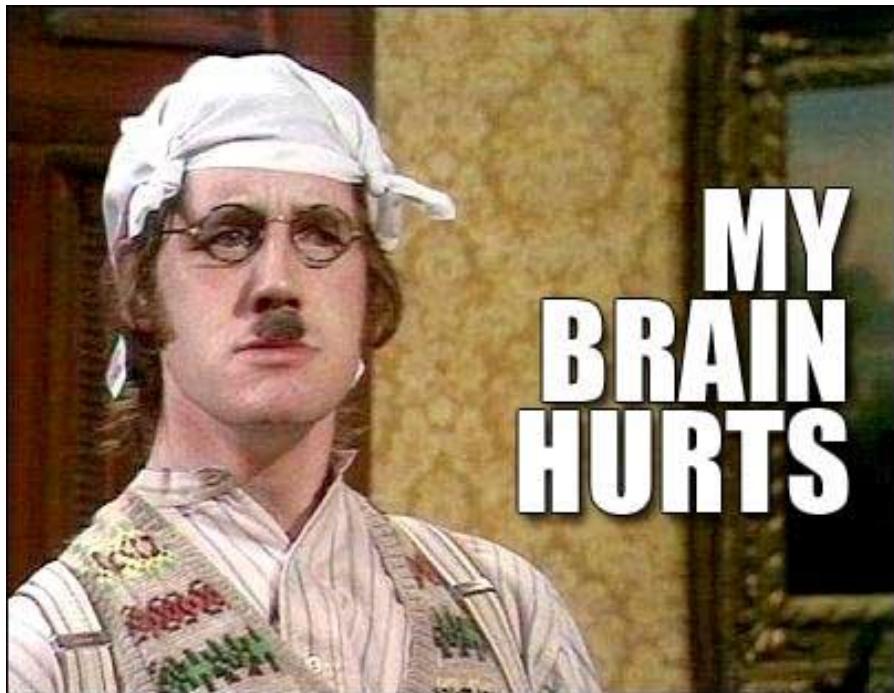


"This company will focus on providing technical and service-led solutions to improve the water management of communities in need in ODA countries. The company will always seek to maximise the number of people it can help and become financially sustainable in doing so."

This is designed to guide the decision makers in the company on how they should make those decisions.

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## **HOW THE HELL DO YOU CHOOSE WHICH ONE?**



You focus on the idea and what you want to achieve with it and then:

**GET SOME ADVICE FROM  
SOMEONE WHO KNOWS  
WHAT THEY ARE DOING.**

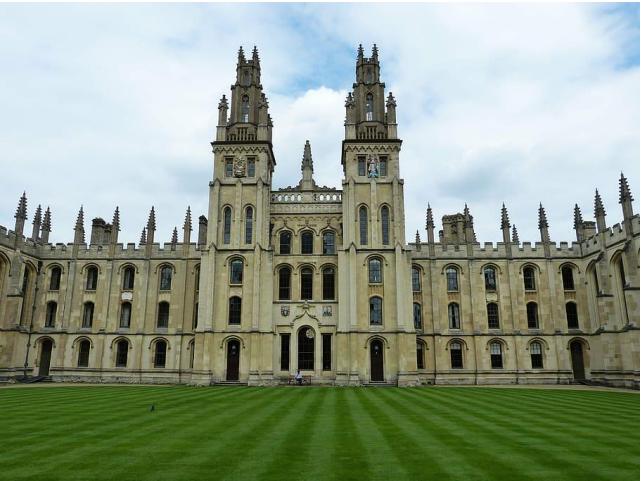


## FIRST HUMANITIES SPINOUT IN 2011 – IN CLASSICS OXFORD MULTI-SPECTRAL

- Uses infrared/UV to detect faded ancient inks.
- Papyrus scanning empire?
- A little short of demand BUT
- Useful for fraud detection – now being applied in China.



# WERE WE APPROACHING THIS IN THE WRONG WAY?



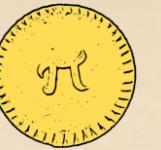
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- What do you ACTUALLY want to do?
- What got you interested in studying the problem in the first place?



# PalaeoPi



OUMNH Cave Bear Atlas  
by PalaeoPi



# OXWATER FROM GEOGRAPHY (SPINNING OUT NOW) USING AI IN THE FIELD TO DETECT A BROKEN PUMP BEFORE IT BREAKS

- A box of electronics on the back of a hand pump to measure how it is being used + machine learning to infer when a pump is ABOUT to break
- This was patented – EU & US
- “You could apply this to the oil industry...”
- The academics involved wanted to make a social impact and were not interested in oil.
- They started a company without our help.
- Now we are trying to help it grow.
- Idea protected but in the wrong place and there is not much point in protecting it in the place it is used.



Although the Smart Handpumps crowdfunding campaign is now closed, you can still join the team on their journey and donate [here](#).

## SMART HANDPUMPS

A project by: Patrick Thomson



**SUCCESSFUL**

**WE RAISED £50,231**  
from 209 donors

**COMPLETED**

This project received pledges on Mon 01 Jul 2019

We set up a crowdfunding platform to raise money for social or environmental causes.

# EFFECTIVE

## ETHICS

### MEET OLIVER

- Developed a questionnaire asking questions about a person's ethical construct.
  - Questions not hugely unexpected – quite obvious
  - Uses anthropological theory to characterise the moral framework based on the answers.
- Could it be protected by a patent?
- How best to protect the questionnaire?
  - Wants to protect as he talked about it at a conference and people were interested in his outcomes.
- **Where is the value?**



# Seven moral rules



## Family

- Help your family
- Love, care, protect
- 'Blood is thicker than water'



## Group

- Help your group
- Loyalty, unity, solidarity
- 'United we stand, divided we fall'



## Reciprocity

- Return favours
- Trust, reciprocity, gratitude
- 'One good turn deserves another'



## Bravery

- Be brave
- Heroism, courage, generosity
- 'With great power comes great responsibility'



## Deference

- Respect your superiors
- Humility, obedience
- 'Blessed are the meek'



## Fairness

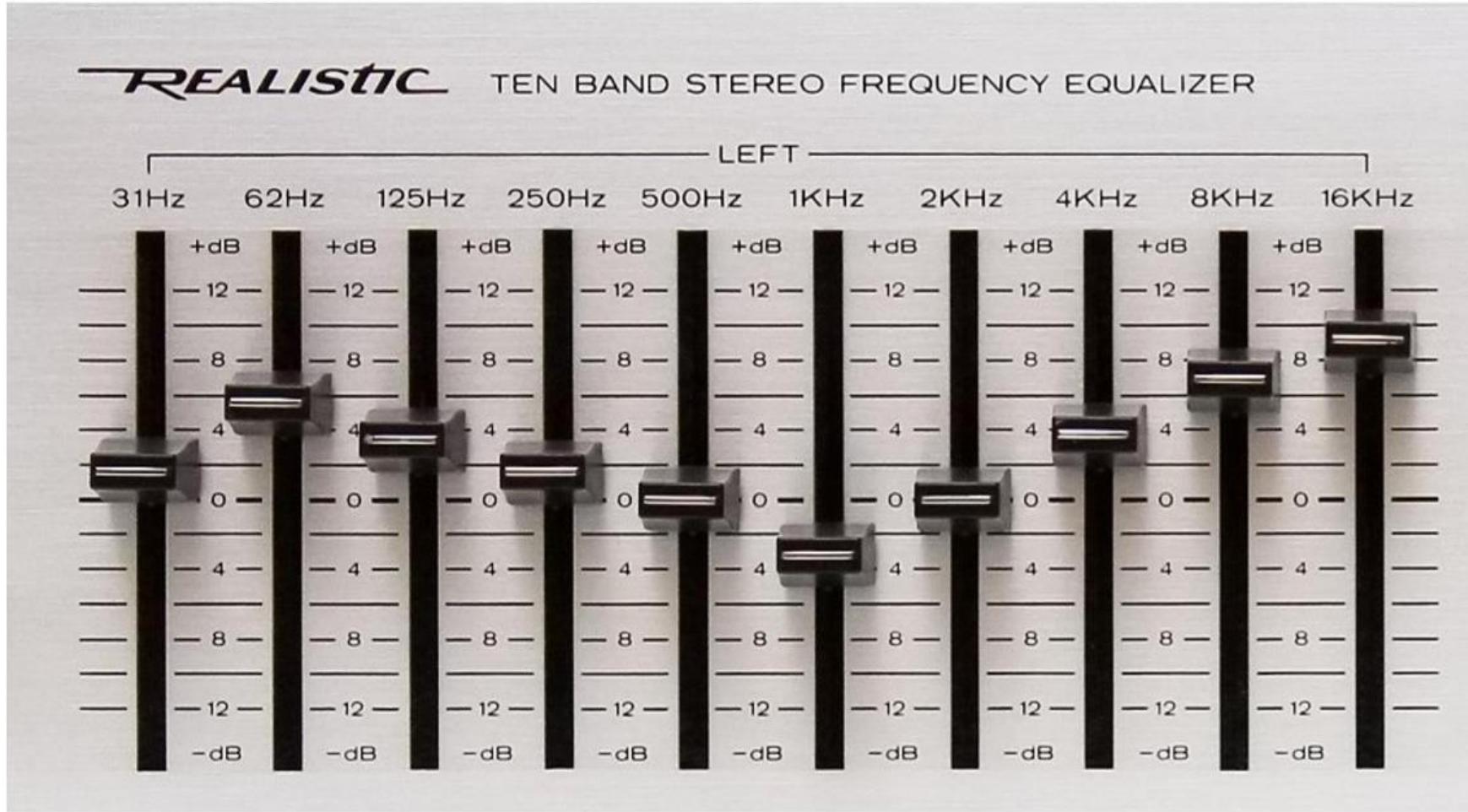
- Divide disputed resources
- Equity, bargaining, compromise
- 'Let's meet in the middle'



## Property

- Respect others' property
- Property rights, theft
- 'Possession is nine-tenths of the law'

# Same values, different priorities





Curry, O. S., Mullins, D. A., & Whitehouse, H. (2019). Is it good to cooperate? Testing the theory of morality-as-cooperation in 60 societies. *Current Anthropology*, 60(1).

# BUSINESS HAS SHOWN INTEREST. THERE IS A MARKET

## Example 1: A call centre business



# WHAT COULD YOU DO WITH IT?

## How to be better

- Targeted training
- Bespoke operational change
- Code of ethics
- Moral messaging
- Effective CSR



- Pre-seed funding obtained to carry out a pilot.
- Company developed a series of products such as:
- An initial ethical audit
- Developed specific training modules for a client's staff to close the gaps identified
- Now spinning out as a company providing the service.

# SOCIAL ENTERPRISES IN DEVELOPING NATIONS

EXAMPLE: [HTTPS://SOPHIAOXFORD.ORG/](https://sophiaoxford.org/)



# INTERNATIONAL DEVELOPMENT



## SO WHAT ARE WE SELLING HERE?

- OPHI and Asociación Horizonte Positivo had worked with Costa Rican government on a multi-dimensional poverty index (MPI).
- The biggest bank in Costa Rica wanted to assess whether it was forcing its own workforce into poverty.
- They developed the Business MPI to measure it – the resultant consultancy encouraged the board of directors to put together a hardship fund for those in poverty, paid out of their own salaries.



# NO REALLY, WHAT ARE WE SELLING HERE?

- On the back of the pilot with BAC, OPHI and HP+ launched the bMPI in August 2017.
- HP+ was exclusively licensed to deliver a consultancy and accreditation service on the back of a trademark.
- 20 were expected to sign up. They got 80.



# THIS IS GOING GLOBAL



Agenda: High-Level Side Event at the 72<sup>nd</sup> United Nations General Assembly

*Using the Multidimensional Poverty Index to Track Progress in the SDGs*

19 September 2017, 11am-1pm, CR 2, UN HQ, New York

#### Reflections by Eminent Speakers

- H.E. Juan Orlando Hernández, *President of Honduras*
- H.E. Dasho Tshering Tobgay, *Prime Minister of Bhutan*
- H.E. Juan Manuel Santos, *President of Colombia* (*by video*)
- H.E. Enrique Peña Nieto, *President of Mexico* (*by video*)
- H.E. Ana-Helena Chacón, *Vice-President of Costa Rica*
- H.E. Isabel de Saint Malo de Alvarado, *Vice-President of Panama*

#### Ministerial Discussion

- H.E. Jeff Radebe, *Minister in the Presidency for Planning, Monitoring and Evaluation, South Africa*
- H.E. Ghada Waly, *Minister of Social Solidarity, Egypt*
- H.E. Adoracion M. Navarro, *Undersecretary, National Economic Development Authority, Philippines*
- H.E. Shamsl Alam, *Senior Secretary, General Economic Division, Bangladesh Planning Commission*

#### Leaders in International Institutions

- Achim Steiner, *Administrator, UNDP*
- Ángel Gurría, *Secretary-General, OECD*
- Thomas Gass, *Assistant Secretary General for Policy Coordination and Inter-Agency Affairs, United Nations*
- Ahmed Aboul Gheit, *Secretary-General, League of Arab States*
- Mohamed Ali Alhakim, *Executive Secretary, UN-ESCWA*
- Canin Jánmin, *Director General, Sida*
- Laurence Christian Chandy, *Director of Data, Research and Policy, UNICEF*
- Carolina Sanchez-Paramo, *Senior Director for Poverty and Equity Global Practice, World Bank*

#### Closing Remarks

Dr. Sabina Alkire, Moderator and Director of OPHI, University of Oxford

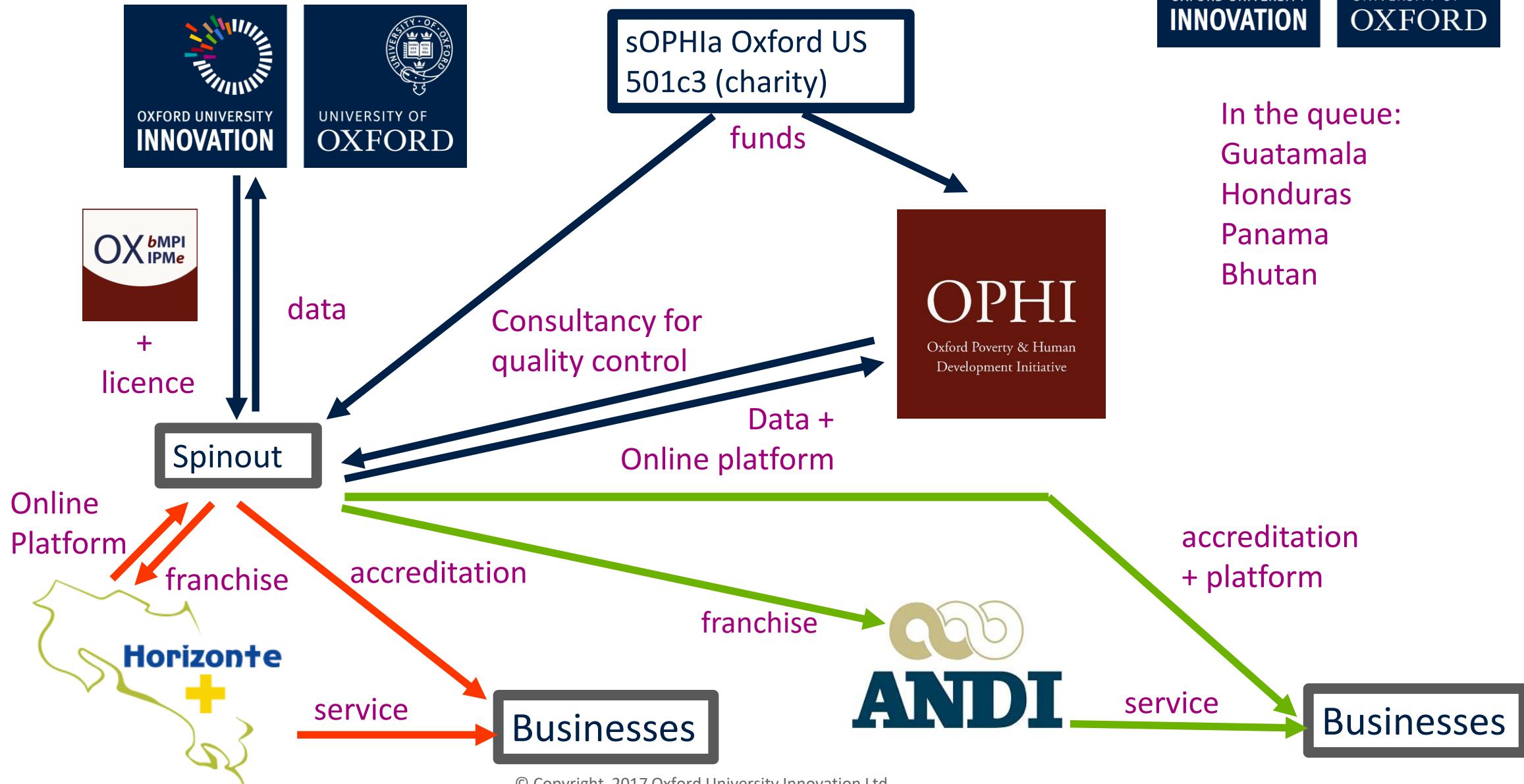
Confirmed Agenda as of 7:30pm, BST, 14 September 2017

# SOCIAL ENTERPRISE #1: SOPHIA OXFORD UK

- Lean spinout
  - spin out a company that doesn't need investment for the cost of filing a patent.
- Social enterprise spinouts.
  - Company Limited by Guarantee.
  - Funded through loans and donations.
  - Will take advantage of tax reliefs for social impact work.
- Service/franchise agreements
  - Research-backed methodology that is proven to work, published and recognised by the field.
  - Franchise the spinout/company to deliver the methodology on your behalf. Trademarked methodology.
  - Charge for quality control. Withdraw the franchise if corners are being cut. This PROTECTS the methodology.



# The structure





Inkpath



OxVent

A social enterprise for mechanical ventilation  
Scientists | Clinicians | Manufacturers

COMPANIES I HELPED  
TO START

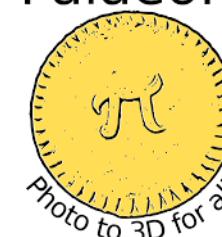
THEY ARE ALL VERY  
DIFFERENT FROM EACH  
OTHER



ROGUE INTERROBANG



PalaeoPi





## RULES OF THUMB

- If you are building something which needs a lot of technology, it'll be a shares company, as the only way you'll raise the cash you need to build the thing you need is through investment.
- If you are selling something where the ethics are really important, consider a social enterprise.
- Always, always, always ask for advice. No question is stupid.
- You'll get out of it as much as you put in. It is hard work starting a company but also exceptionally good fun.