



FLL was started in 1998 by Dean Kamen, the inventor of the Segway and the founder of FIRST. It now runs in 80 countries with 200,000 kids.



2013 FLL Scotland Regional Champions @ Edinburgh Informatics Forum:  
The Calderwood Clan — Calderwood Primary School



It's a life-changing competition.  
— Morgan Freeman (a.k.a. Master Builder Vitruvius)



2014 FLL Edinburgh Regional Champions @ Dynamic Earth:  
The Burgh Bears — Newburgh Primary School



We need our young people to keep [the spirit of inventing] alive.  
We need to encourage our kids and invest in their education. — Barack Obama



St Kentigern's Academy: participants set up a lunchtime robotics club after taking part in FLL Scotland



I've traveled all around the world and this is the most exciting thing.  
Too many kids don't see the opportunities. — will.i.am



2014 FLL Glasgow Project Winners @ Glasgow Science Centre:  
St Joseph's Primary School



2014 FLL Glasgow Regional Final  
Glasgow Science Centre



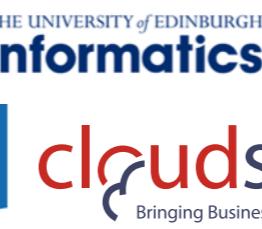
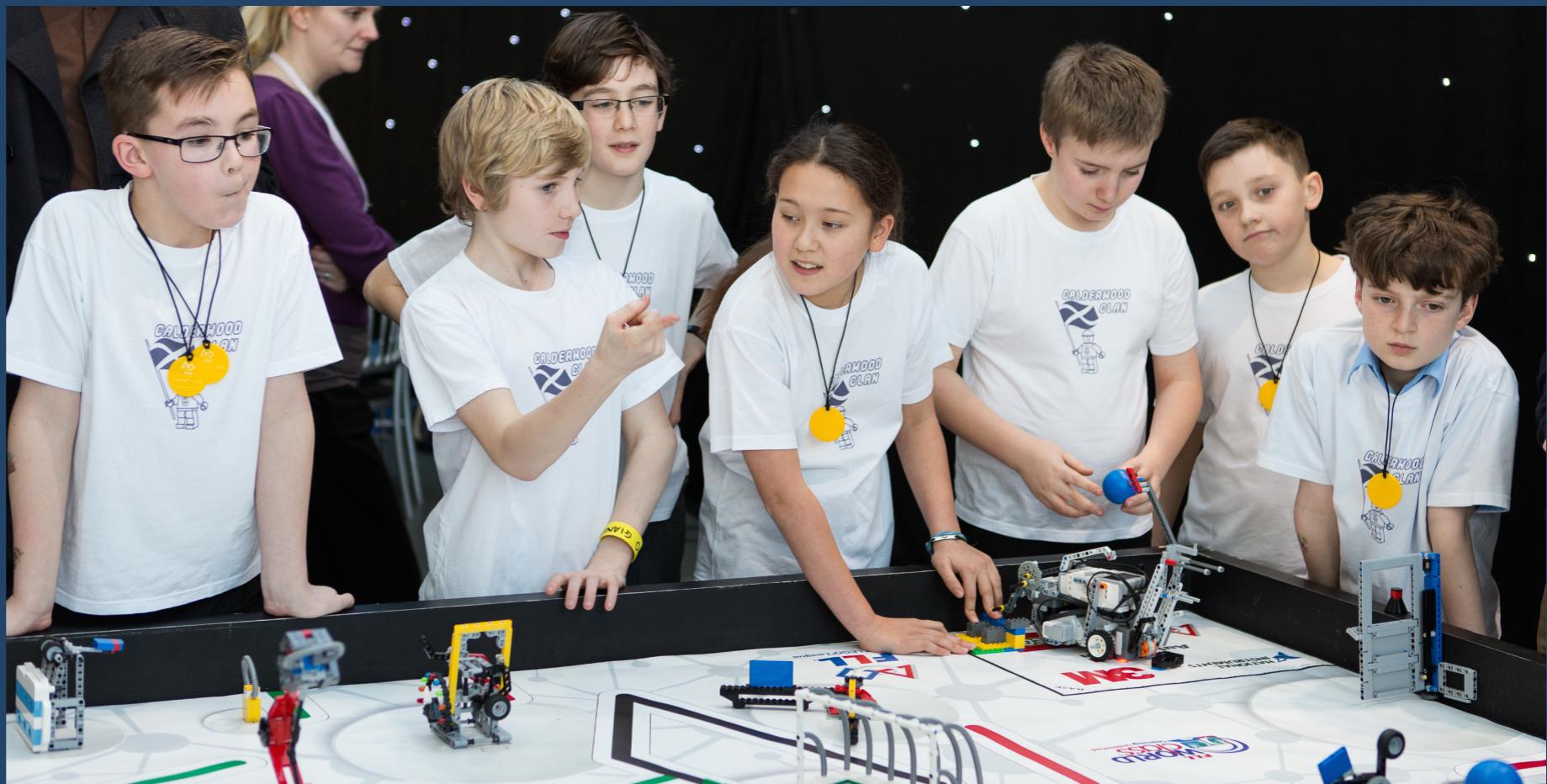


RSE YOUNG  
ACADEMY  
OF SCOTLAND

IET Education  
The Institution of  
Engineering and Technology

FLL  
FIRST® LEGO® League

# FIRST LEGO League Showcase Scotland



# What is FLL?

A program to help children discover the fun in science and technology while building self-confidence, knowledge and life skills.

For Inspiration and Recognition of Science and Technology

# International

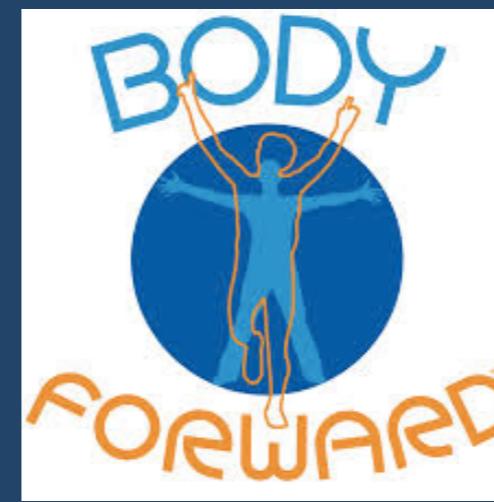
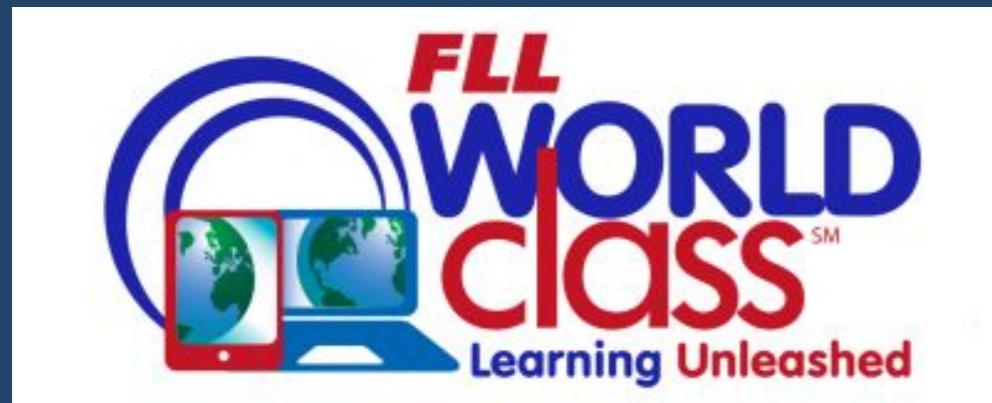
- Began in 1998 with 200 teams
- 265,000+ children participating
- 80 countries



# Teams



Aged 9 to 16

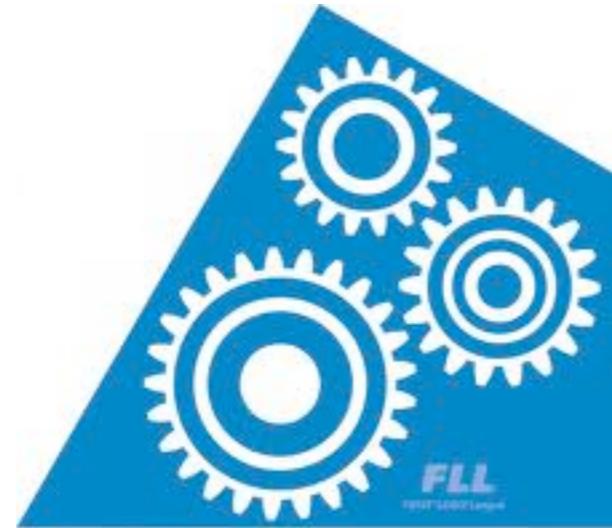


# Theme



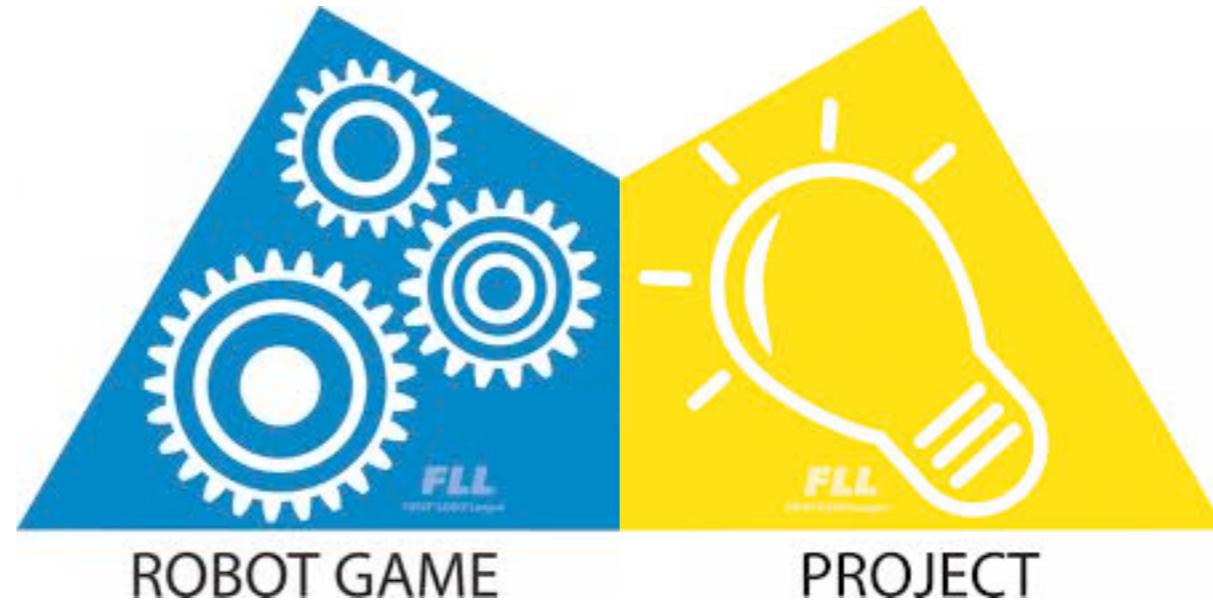
Theme  
2015

# FLL Challenge

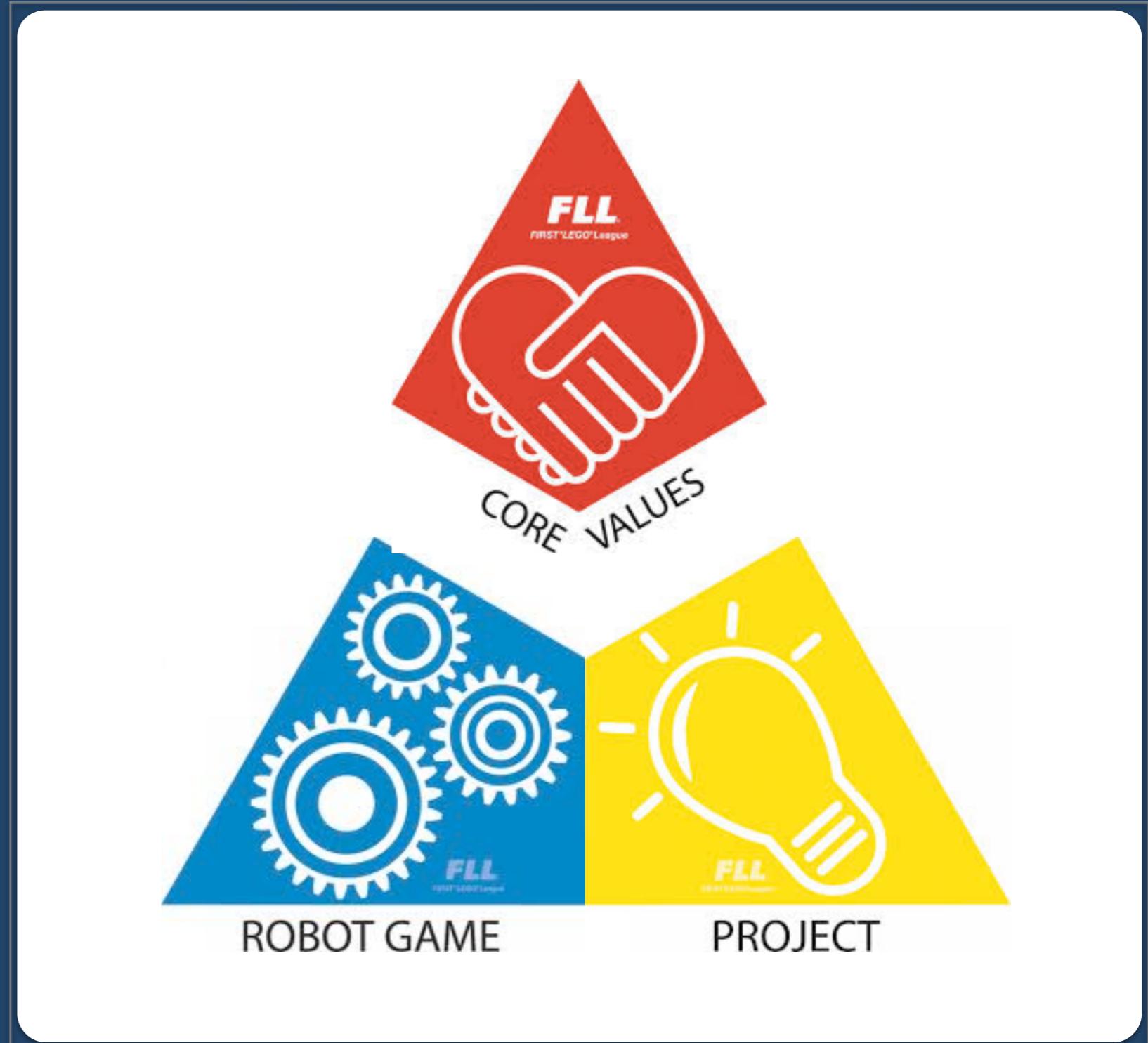


ROBOT GAME

# FLL Challenge



# FLL Challenge



# FLL Scotland



# Engineer Mentor Network



# Broadening Participation



# Maximising Impact



# Impact

Scotland:

- 87% more interested in building robots
- 81% more interested in programming
- Almost half called FLL **difficult** — but 95% of these also called it **fun** !

Internationally:

- 86% of parents say their children are more **interested** in computing and technology
- Over 40% of participants go on to study engineering at university
- Of female participants, 33% do so

# Media





# Funding



**Why  
Do We  
Run  
FLL?**

# Why Do We Run FLL?

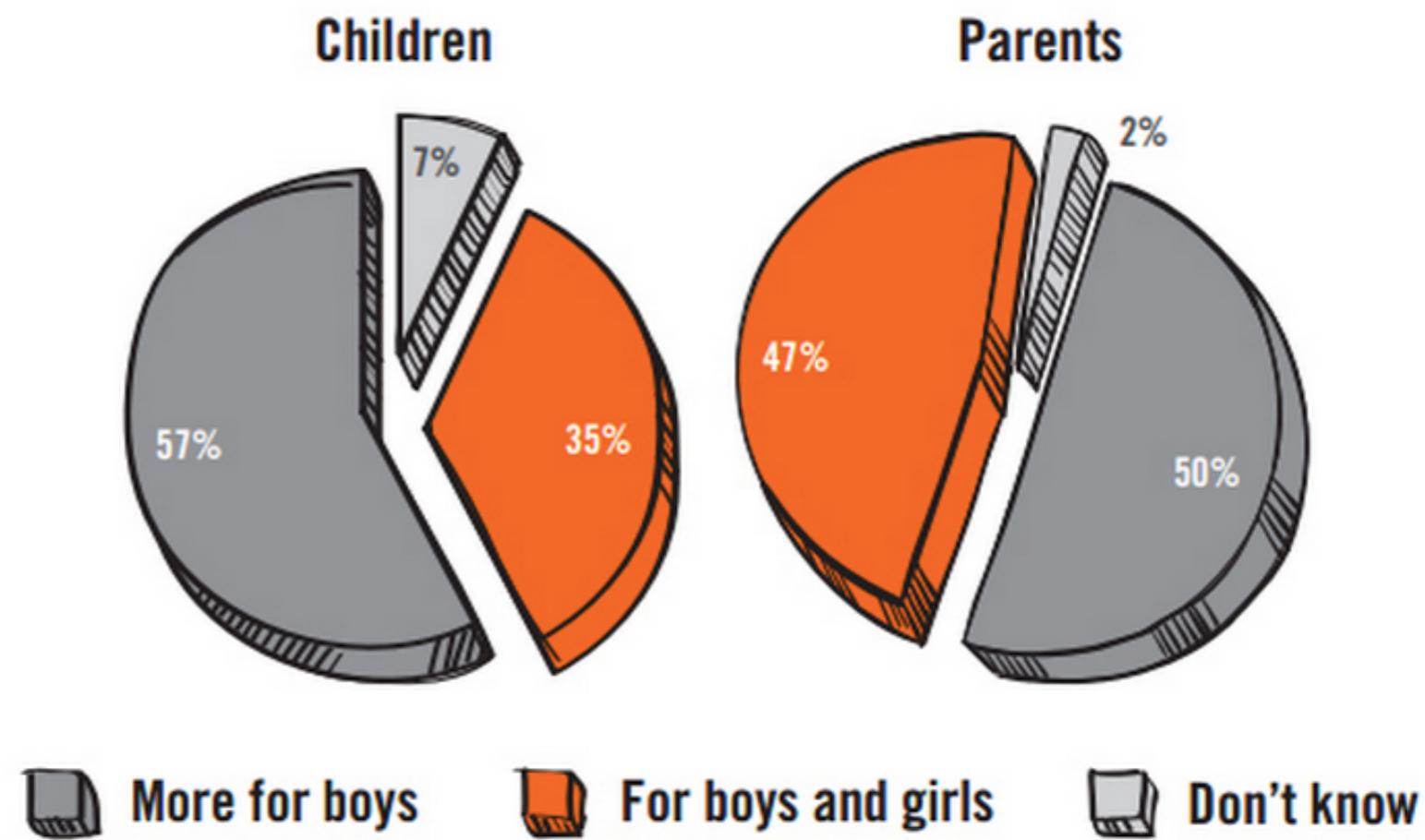


# Why Do We Run FLL?



# Why Do We Run FLL?

PARENTS / CHILDREN - Do you think engineering jobs are...



# Why Do We Run FLL?

The 2014 study shows that the demand for engineers and technicians remains high with over half of companies looking to recruit in order to expand their business and of those, more employers are finding it difficult to do so.

The UK continues to lack expertise in STEM subjects at all levels. It is estimated that the UK will require 87,000 engineers each year for the next decade if it is to meet demand<sup>1</sup>. To increase the supply of skilled engineers and technicians, we need to create a system of engineering education and training that satisfies the aspirations of young people while delivering the high calibre engineers and technicians that businesses need.

# Why Do We Run FLL?

Scotland's Digital Technologies sector:

- **9,600** new entrants needed in 2015
- Scotland's Universities only produce **1,800** qualified graduates a year

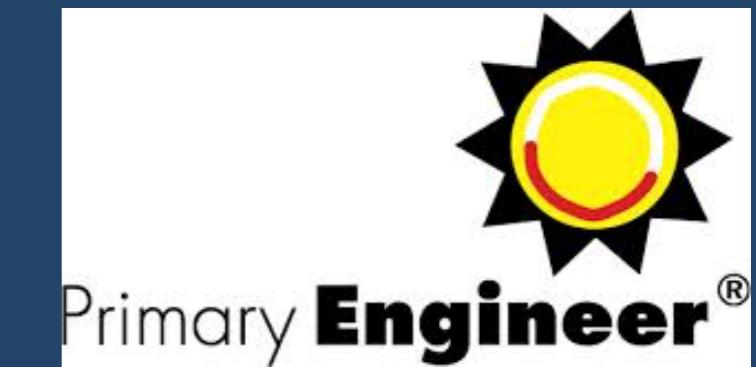
# Why Do We Run FLL?

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**It is improving:**

- STEM subjects enrolment is on the rise
  - Up 21% in computing (past two years)
  - Up 10% in engineering (last year)
  - Up 26% in maths & physics (last year)
- Work in progress to improve curriculum, provide teacher CPD, and retrain graduates
- **But more needs to be done!**



# The Landscape



# 2015 Plan

4 Tournaments  
Glasgow  
Edinburgh  
Dundee  
Aberdeen

60 teams —  
500 children

# How You Can Help

- Share advice
- Spread the word
- Become a mentor or coach
- Volunteer to help at the tournaments
- Sponsor a team or an event

# 2015 Costs

Glasgow Tournament (large)	£8,000
Edinburgh Tournament (large)	£8,000
Aberdeen Tournament (standard)	£6,000
Dundee Tournament (standard)	£6,000
Launch event venue hire (2 x £500)	£1000
Gold Team @ £1K (20 teams)	£20,000
Silver Team @ £400 (40 teams)	£16,000
<i>Total</i>	<b>£65,000</b>

# Sustainable & Inclusive

## **Silver Support Tier**

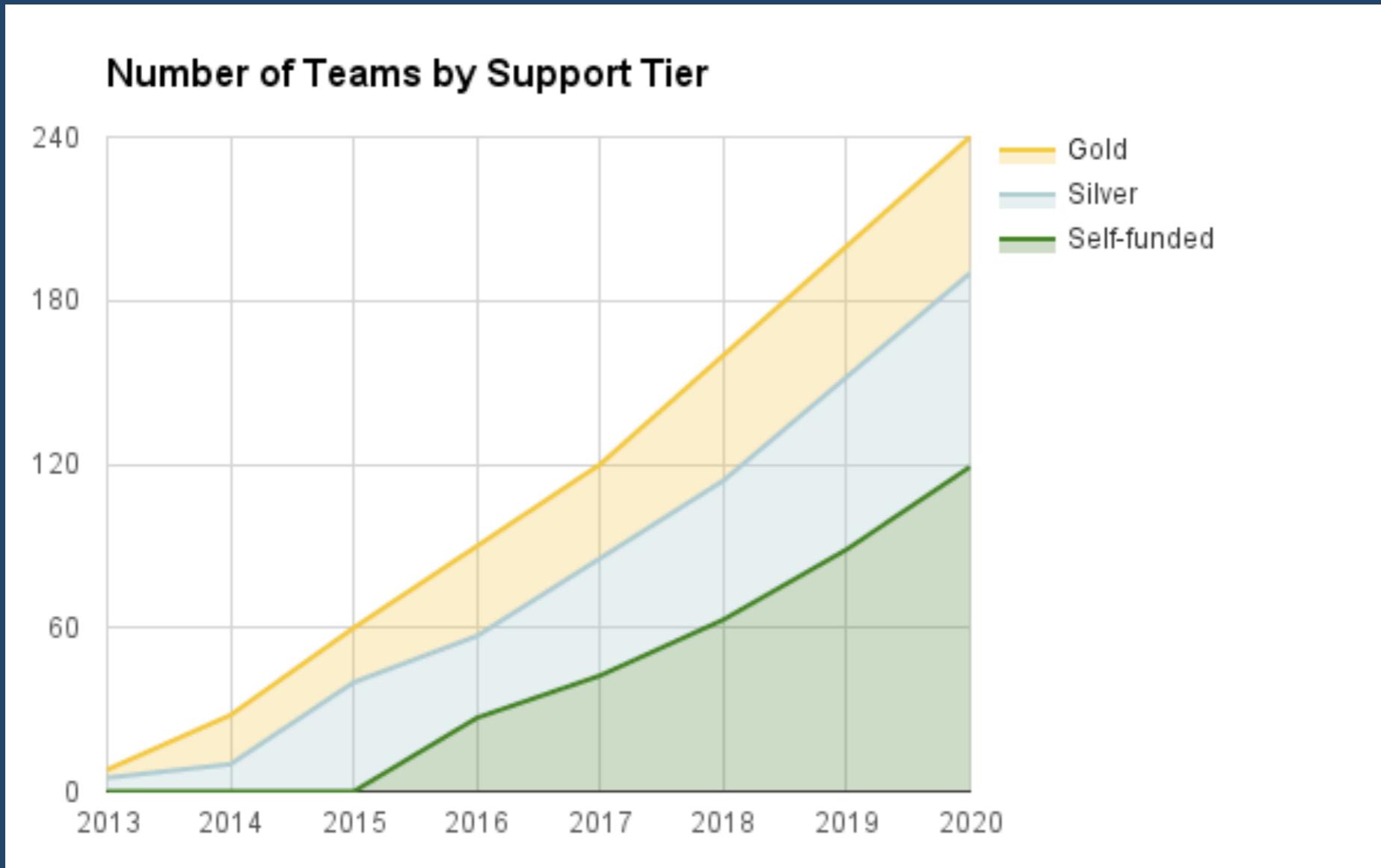
- FLL registration fee covered
- Paired with an engineer mentor
- Support throughout

## **Gold Support Tier**

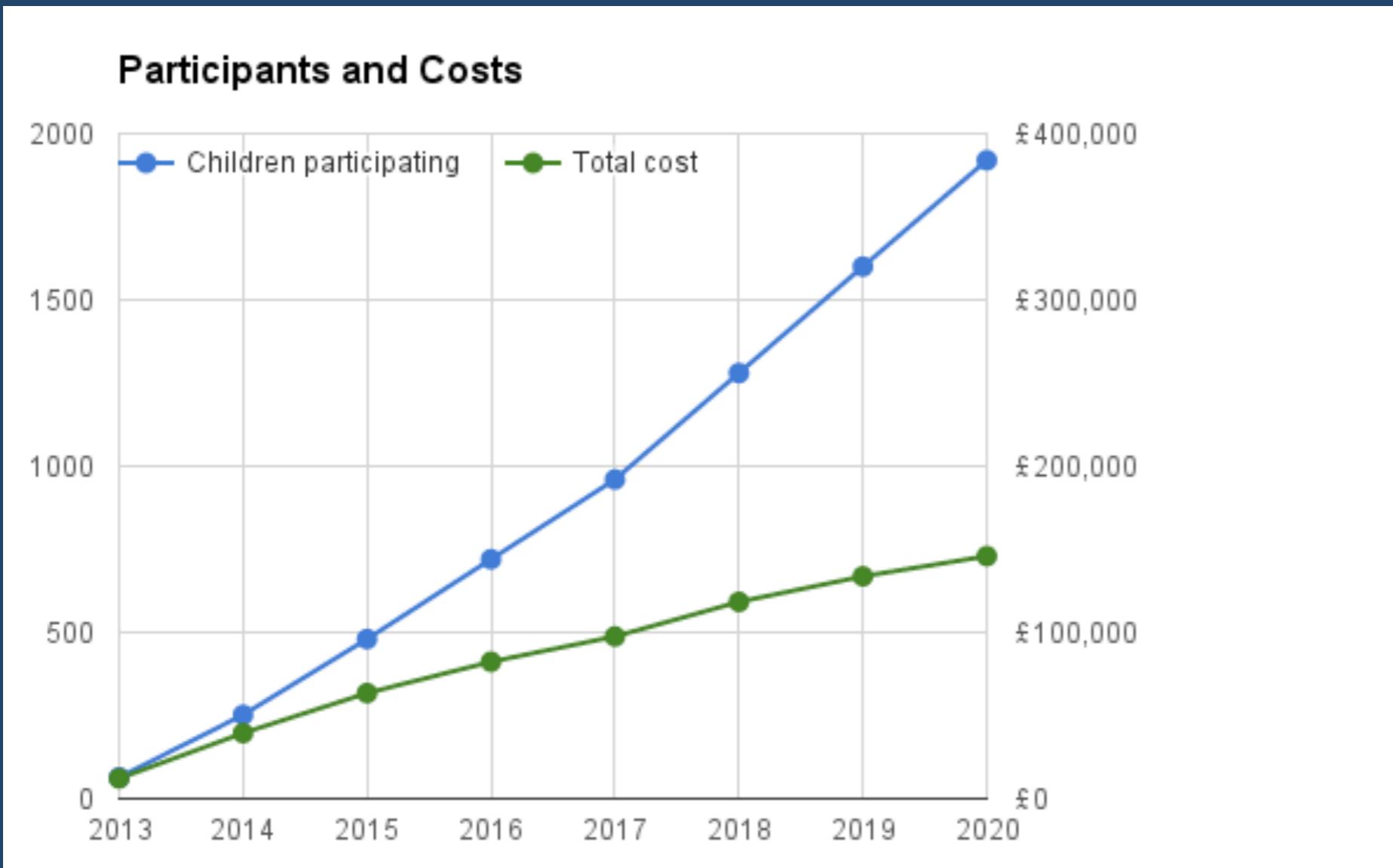
*preference to underrepresented groups*

- FLL registration fee covered
- Paired with an engineer mentor
- Support throughout
- Mindstorms Robot kit to keep  
(kit must be used for entire class)
- CPD/training day
- One on-site visit

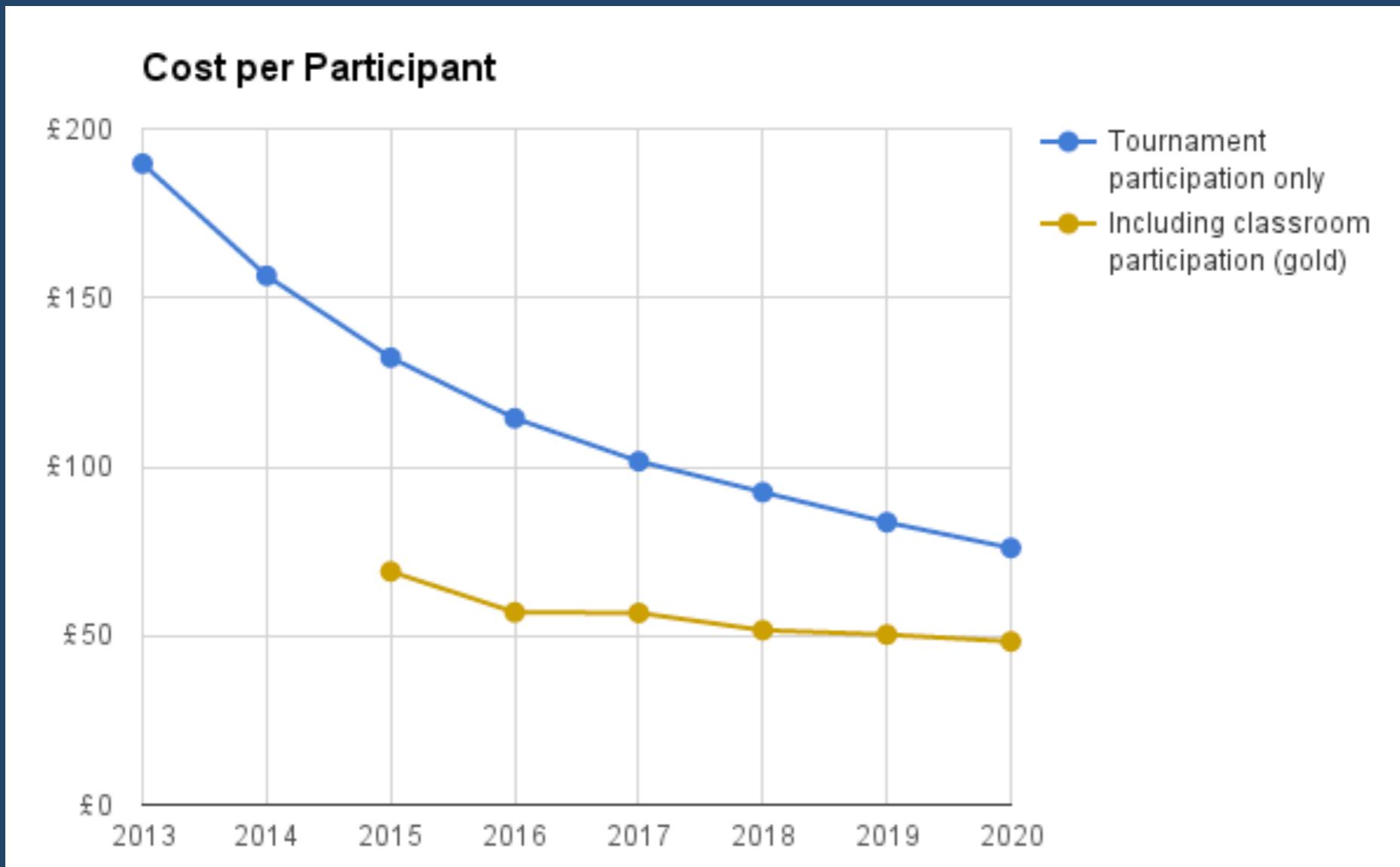
# Long Term Plans



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# Questions

Who should be funding initiatives like FLL?

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**Questions** How can we broaden participation more?

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## Questions

How can we broaden participation more?

What growth is realistic?