

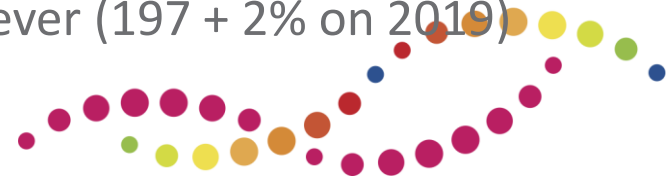
Engineering enrolments survey

- An annual EPC membership service
 - Providing an early temperature check of the health of HE engineering
 - Giving us a glimpse at member new enrolment trends for 2021/22
 - Enabling members to contextualize their relative experience
- Our survey is the only place you can gain this insight
 - 2021/22 enrolment data at undergraduate and postgraduate level is not collected or published by HESA for many, many months.
 - 2021/22 undergraduate *admissions* data is available imminently from UCAS but is only part of the picture.



About this year's collection

- ✓ Return to full survey following an abridged collection in 2000
- ✓ Thanks to information provided by you, our members
 - ✓ Approx. half of our member universities submitted a survey (40) +2
 - ✓ Fluid engagement, we welcome brand new participants this year
 - ✓ All participating universities made a single submission
- ✓ Coverage consistent with pre pandemic
 - ✓ Consistent number of students (c30K)
 - ✓ Covering all countries and regions of the UK
 - ✓ Slightly non-Russell Group heavy (just <1 in 2 enrolments were RG)
 - ✓ Coverage of more discrete disciplines than ever (197 + 2% on 2019)



About this year's collection

- It's a survey, not a data collection
 - Not designed for longitudinal analysis
 - Not everyone collects the same data
 - EU has been harder than ever to pin down (domicile v fee status)
- Sector pressures continue to impact the survey
 - Regular returners declining due to workload
 - Some reported the detail too burdensome to report
 - Some pockets of missing data (EU sex, mode of study)
- Not enough data on Naval architecture to report
 - Combined with Other Engineering and Other Technology this year



Headlines

Overall, volumes and first-degree distributions holding at pre-pandemic levels. Postgraduates up.

IT growing, is this the AI phenomenon? Electronic in decline, but not in other UG. Lifelong learning leader?

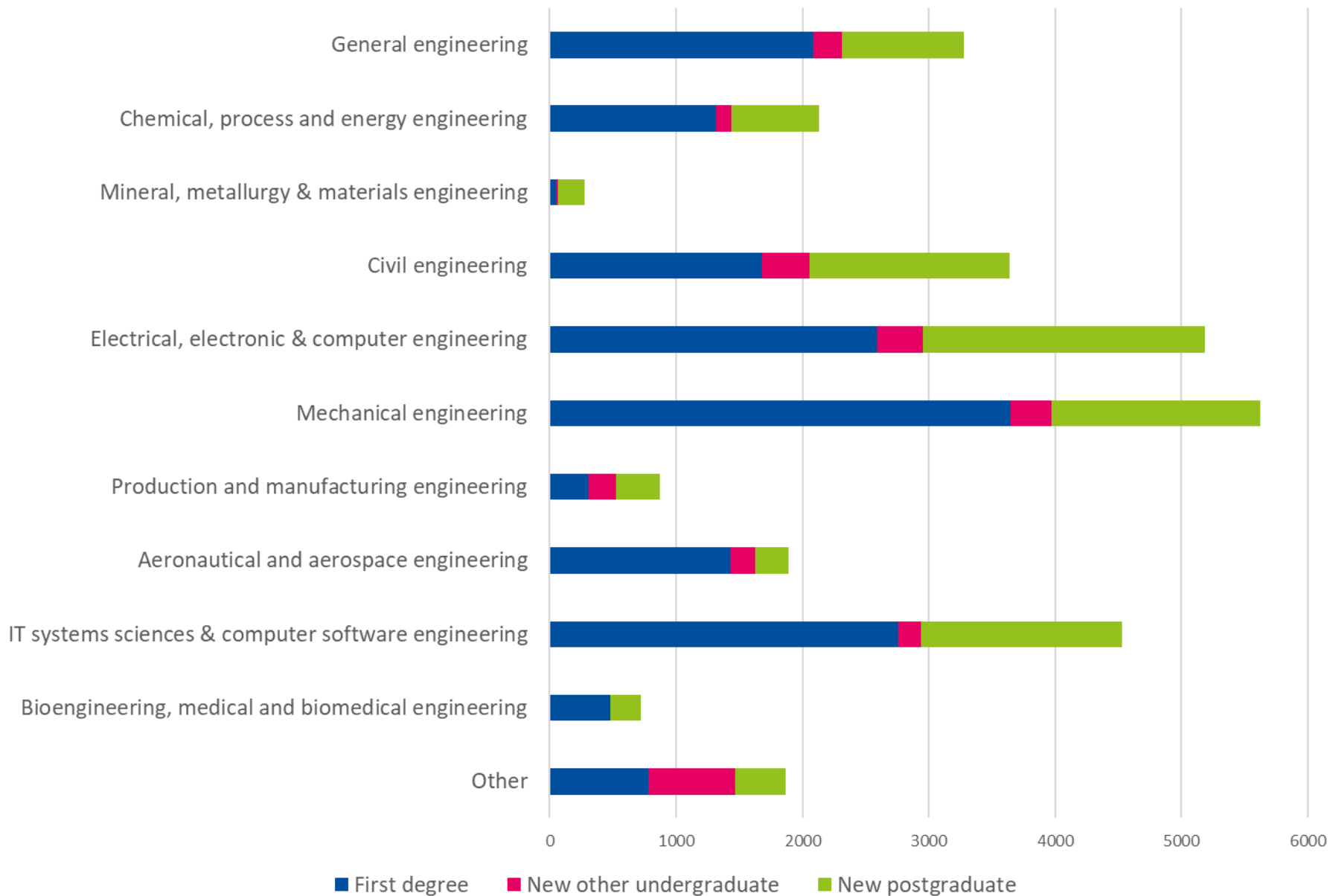
Strong home enrolments. Stable non-EU (esp. PG). EU plummet. Overall international decline because – or despite – of EU change.

Russell Group over-represented in postgrad: Strong internationally. Non-Russell Group dominate undergrad: Strong home market.

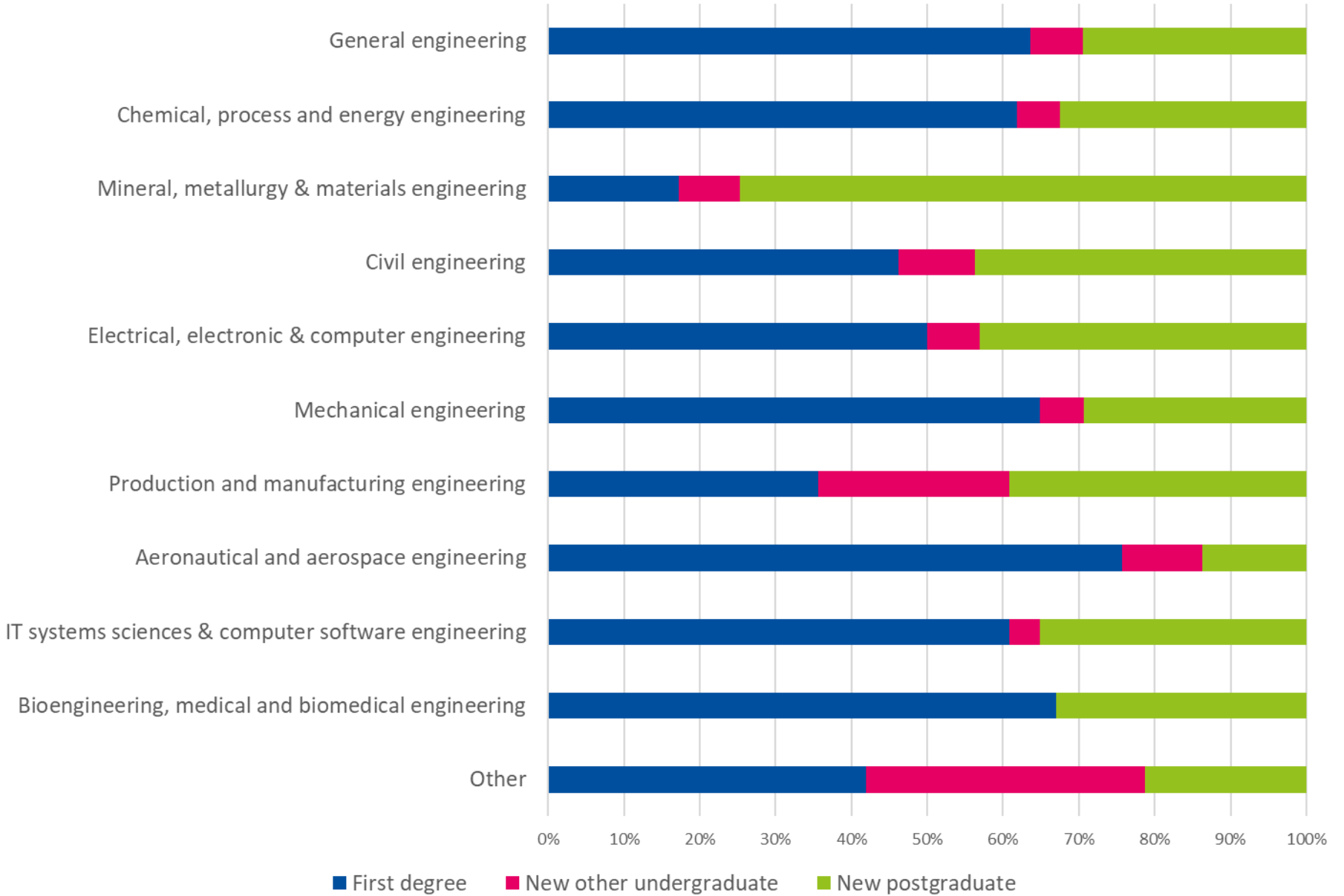
Other UG down 20%. Contracting market by uni type. Stifled innovation sub degree? Uncertainty pending Augar conclusions?



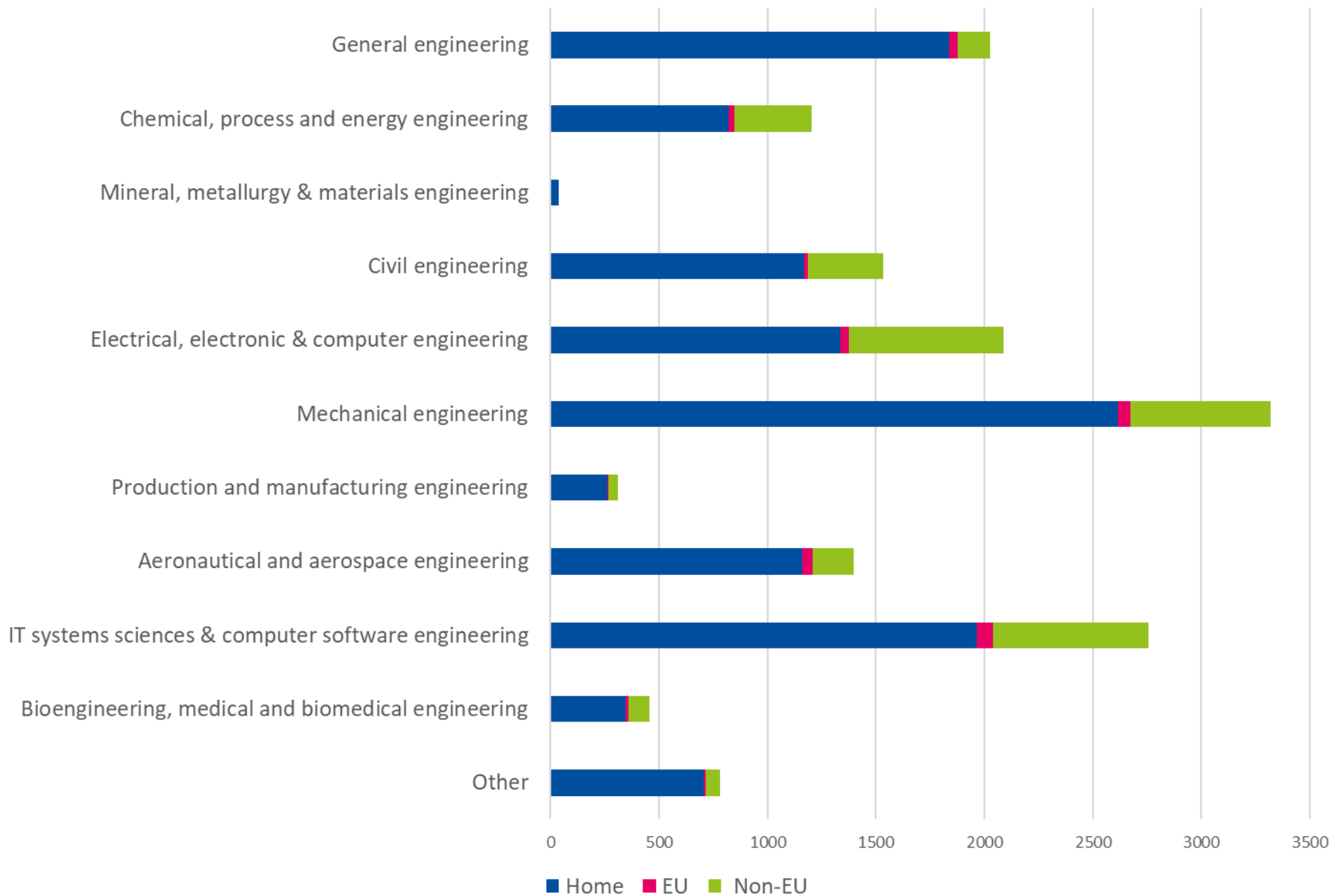
Engineering enrolments 2021/22

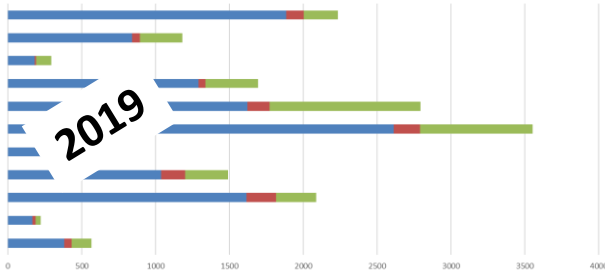


Engineering enrolments 2021/22



Engineering enrolments 2021/22, First Degree

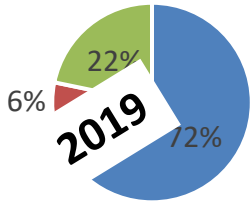




An early sign to the new direction?

- First degree distributions at discipline level strikingly similar to those pre-pandemic (2019) overall:
 - Mechanical engineering remains the sector leader for UG enrolments
 - Electronic engineering has dropped back a little (was strong in 2019)
 - Fewer enrolments reported in Mineral
 - Mechanical has pulled away from the pack
 - With IT hot on its tail showing expansion
- Caveats (why I don't normally show this):
 - Not necessarily comparing like with like as participating unis flux

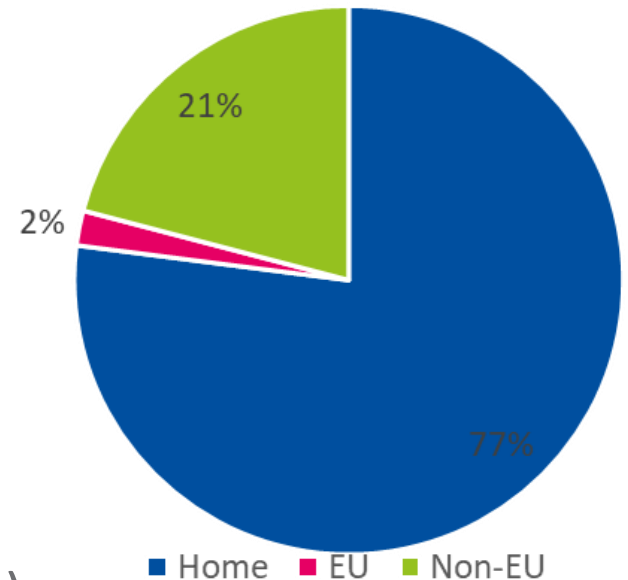




An early sign to the new direction?

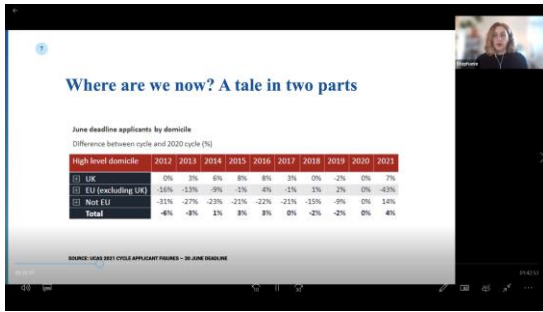
- But EU distinctly absent by comparison in 2021

- Home market strong
- Non-EU market stable (see below)
- Home 77% / Overseas 23% in 2021
- In our 2019 survey this was 72% / 28% respectively (above)



- Caveats (why I don't normally show this):
 - Data collection differences across member unis
 - Change in EU status (fees) and impacts on data collection (may now be reported in overseas where previously home or EU)



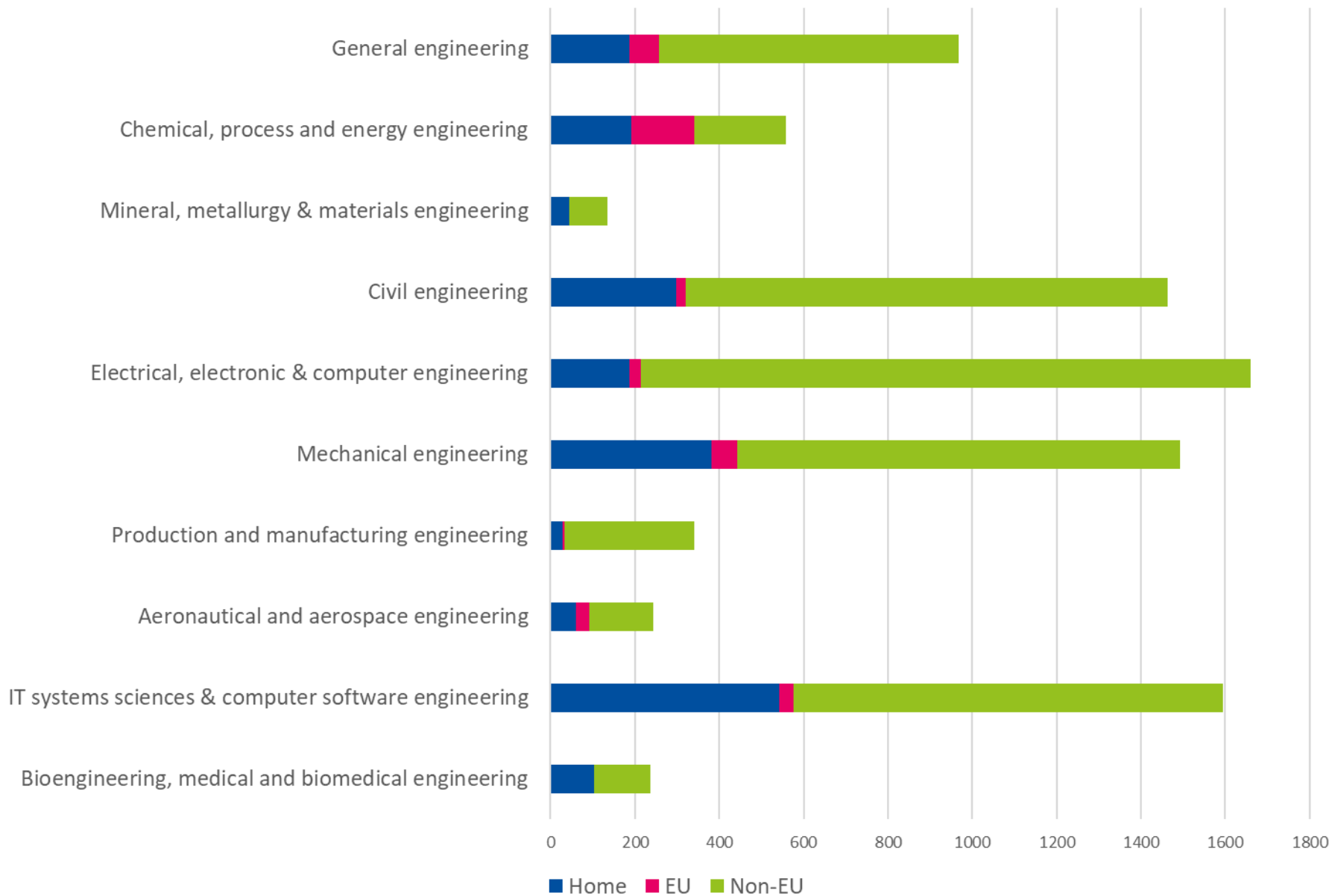


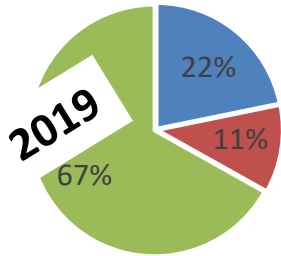
Home up, squeeze on EU

- Earlier in our Forum we heard from international experts:
 - EU undergraduate market down (43%) at 30th June (UCAS)
 - Home market up (7%)
 - Overseas market up 2x (14%)
- But our survey shows a decline in international engineering first degree enrolments
- Where is the commensurate international growth in undergraduate Engineering?
 - Engineering hugely reliant on overseas enrolments.
 - Have we already saturated the global market?



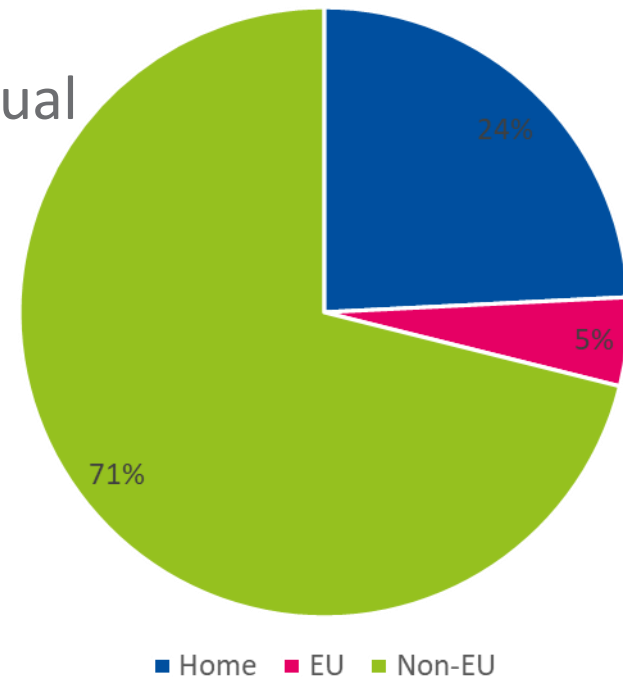
Engineering enrolments 2021/22, Postgraduate



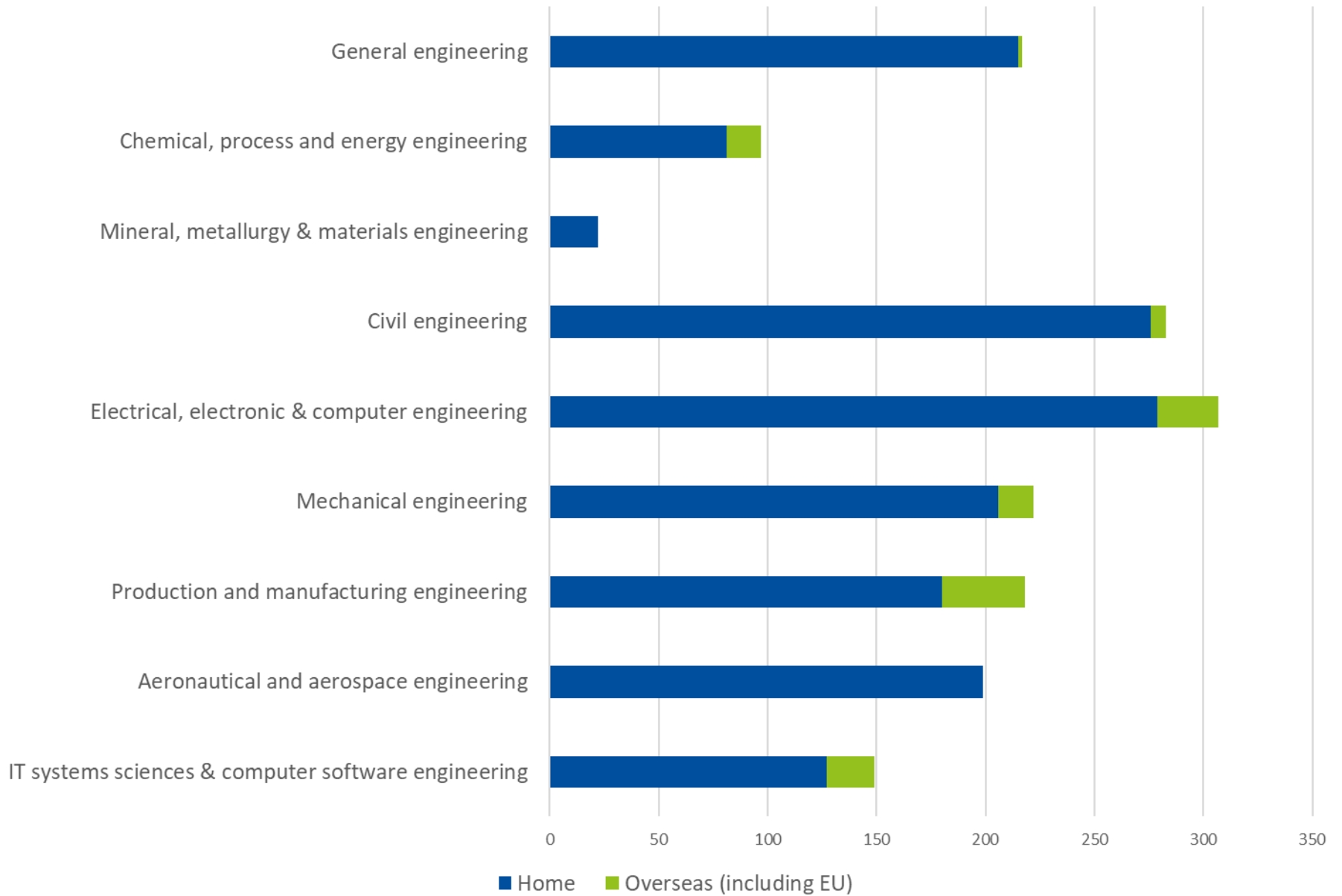


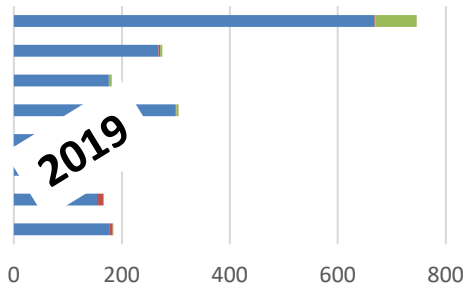
Postgraduate enrolments

- A larger proportion of our sample than usual
- No longer dominated by Electrical
- New = 4 dominating disciplines
 - Electrical, Civil (as expected)
 - IT, Mechanical (growth areas in our sample)
- Almost $\frac{3}{4}$ postgraduates in our sample were non-EU in 2021
 - a higher proportion than in 2019
- Home market share also increased
- Please note caveats



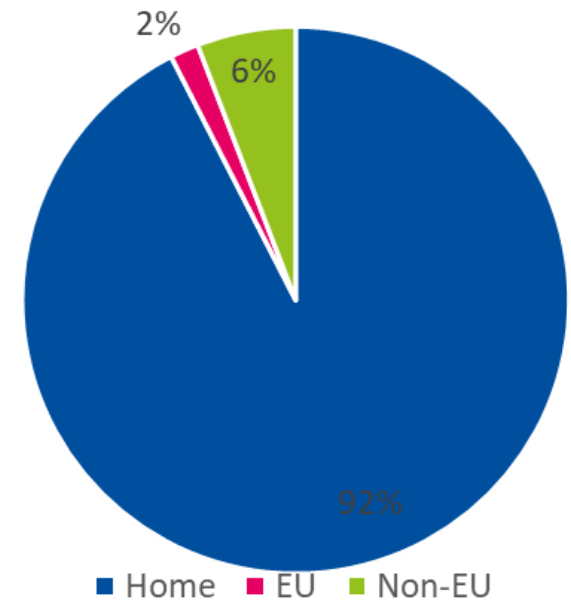
Engineering enrolments 2021/22, Other undergraduate





Other undergrad enrolments

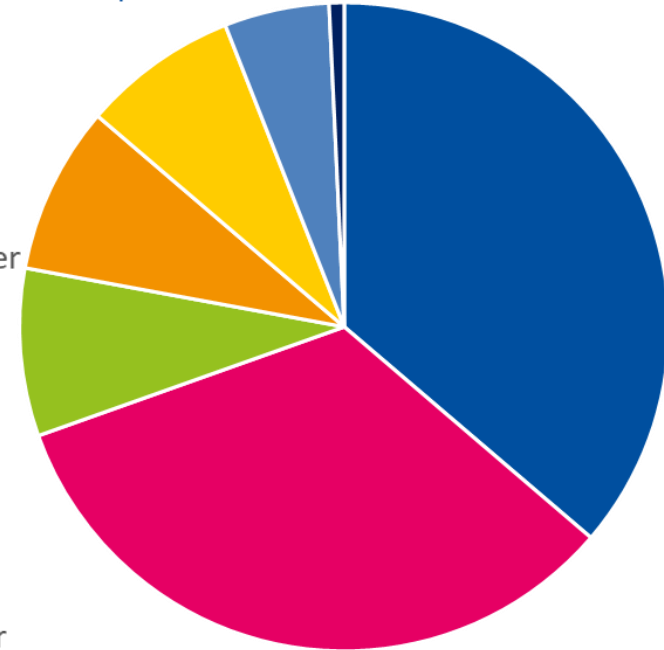
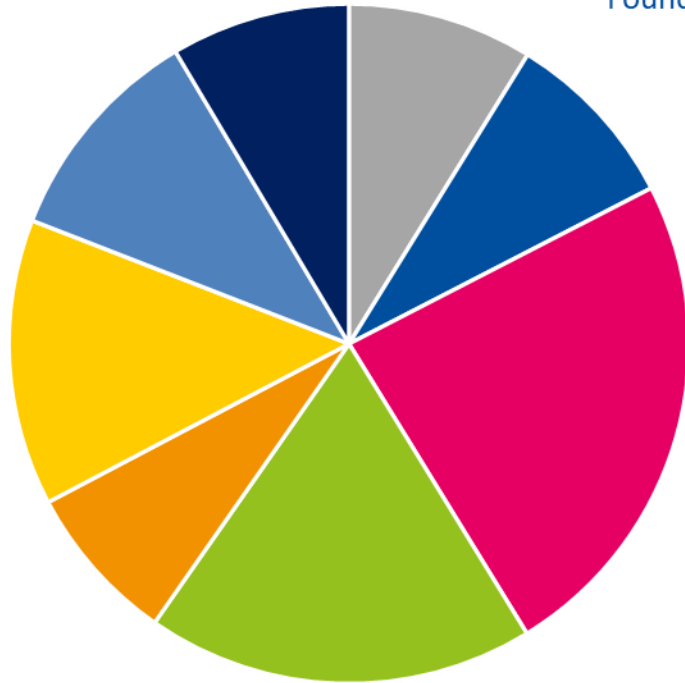
- Only small change in overseas
 - Almost exclusively home students
- But much lower numbers in our survey overall
 - 20% decline in returned enrolments
 - Such small EU numbers that suppressed above
 - Has pandemic suppressed creativity?
- No longer dominated by General Engineering
 - Electrical engineering seems to be a growth area
- Please note caveats



Foundation Degree

Degree apprenticeship

- General engineering
- Civil engineering
- Electrical, electronic & computer engineering
- Mechanical engineering
- Production and manufacturing engineering
- Aeronautical and aerospace engineering
- IT systems sciences & computer software engineering
- Chemical, process and energy engineering

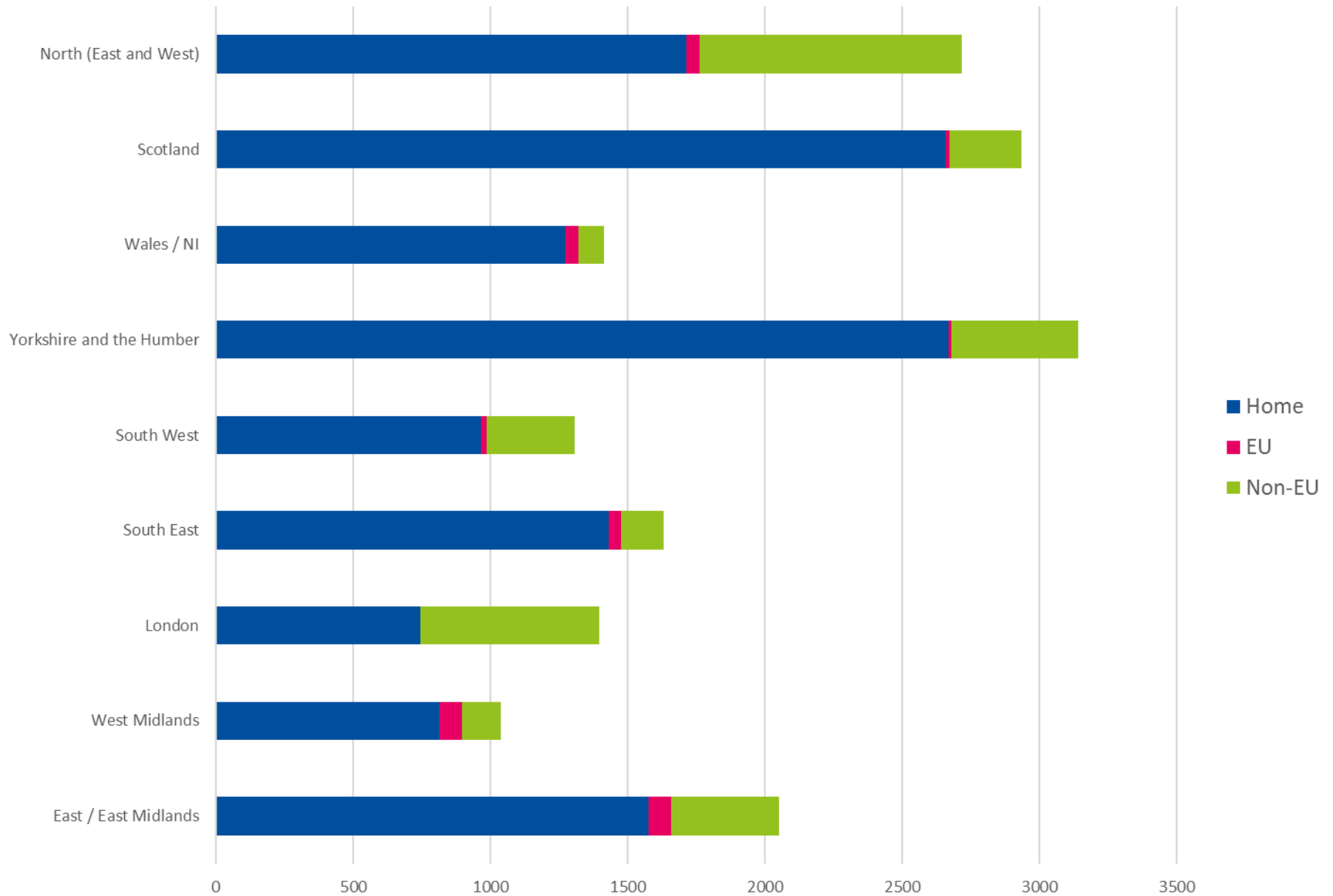


Other undergraduate enrolments

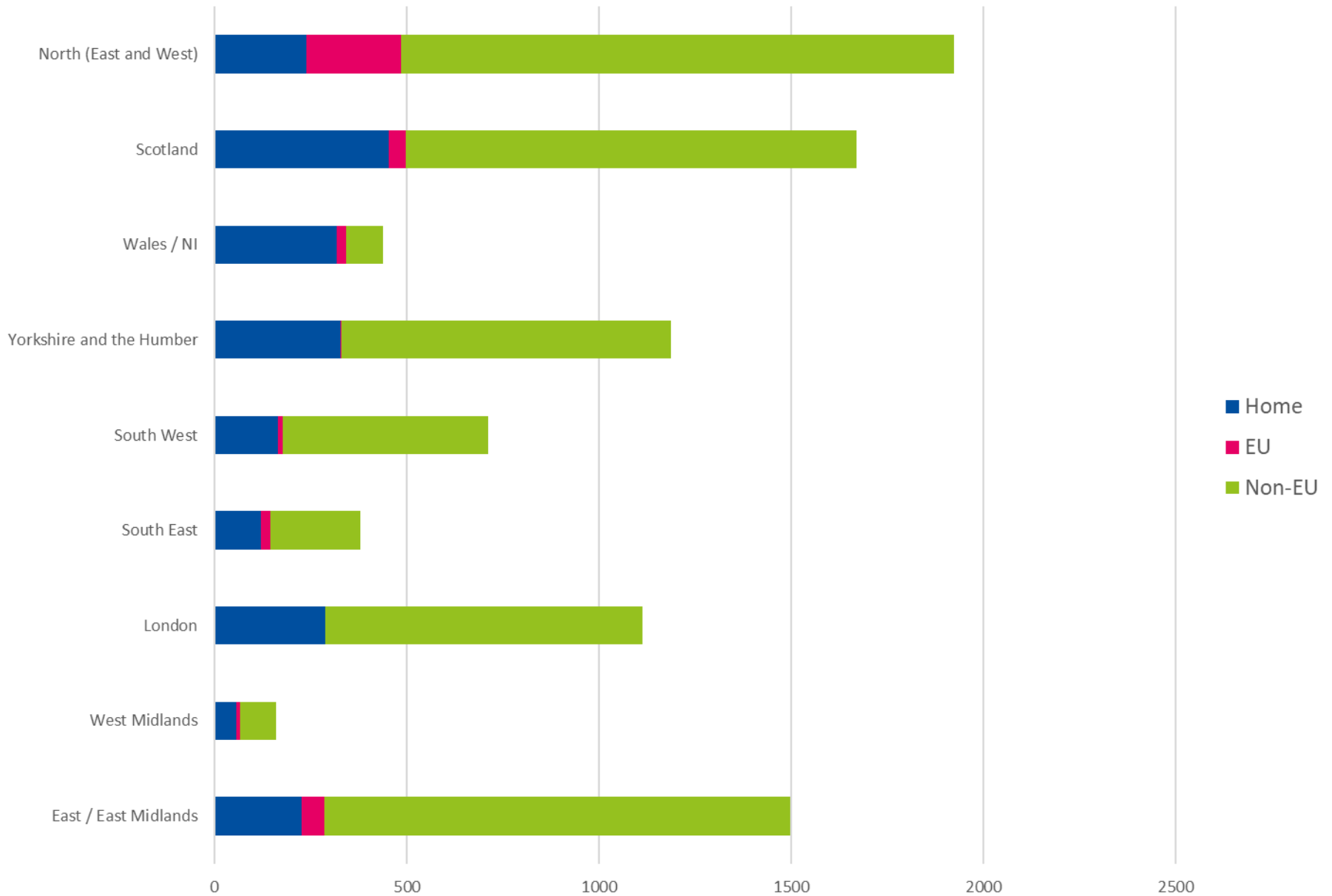
- Proportion of Electrical has increased
 - Approx. 1/3 of Degree Apprenticeships
 - Approx. 1/4 of Foundation
- Chemical features for the first time
- Approx. 60% of Foundation courses were in pre-92 universities (was more than 4 in 5 in 2019)
- Just over half of Degree Apprenticeships were in post-92s (was more than 4 in 5 in 2019)
- 91% of DAs and 98% of Foundation in English universities (an increase on 2019)
- No evidence of Degree Apprenticeships at PG level



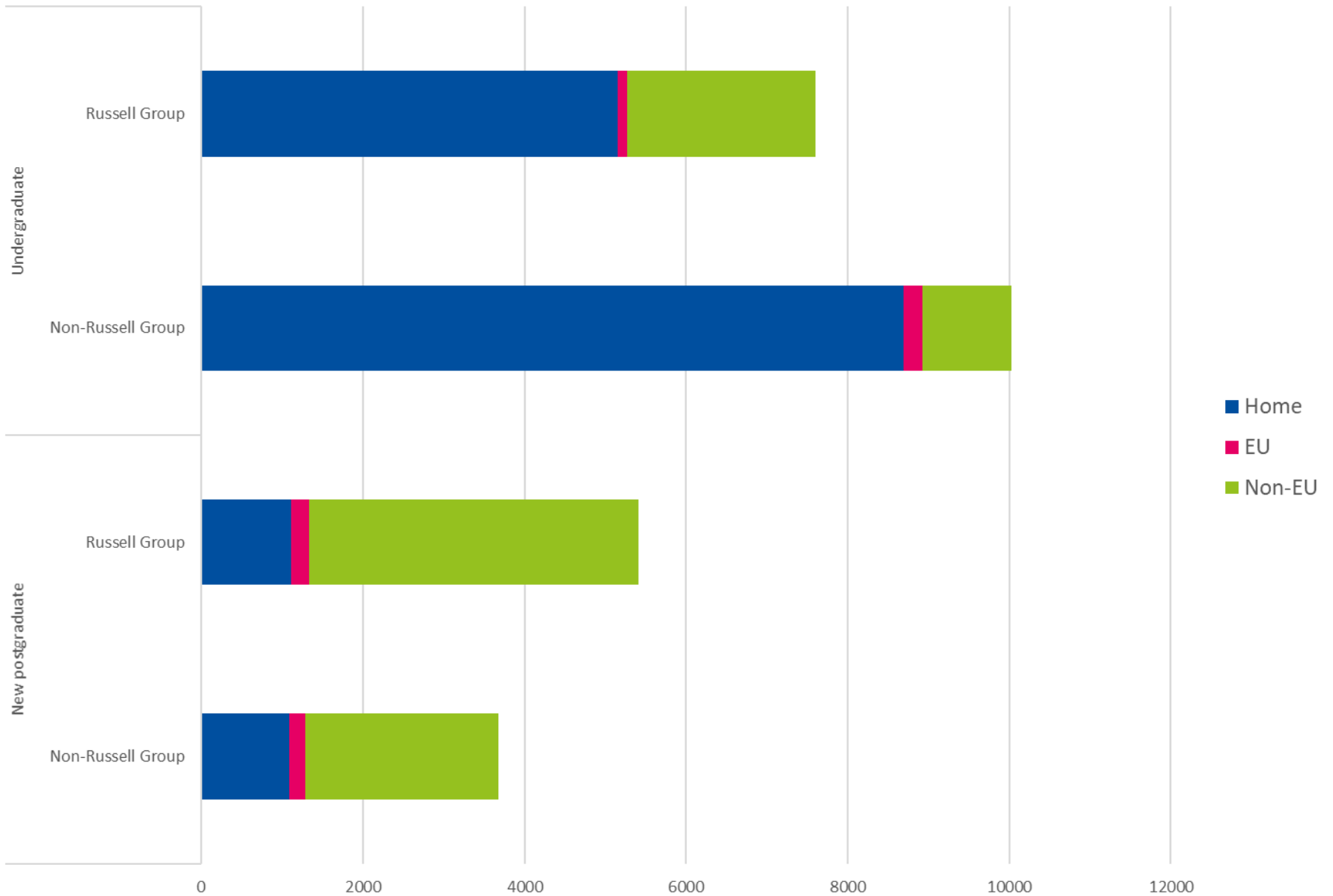
Regional engineering enrolments 2021/22 undergrad



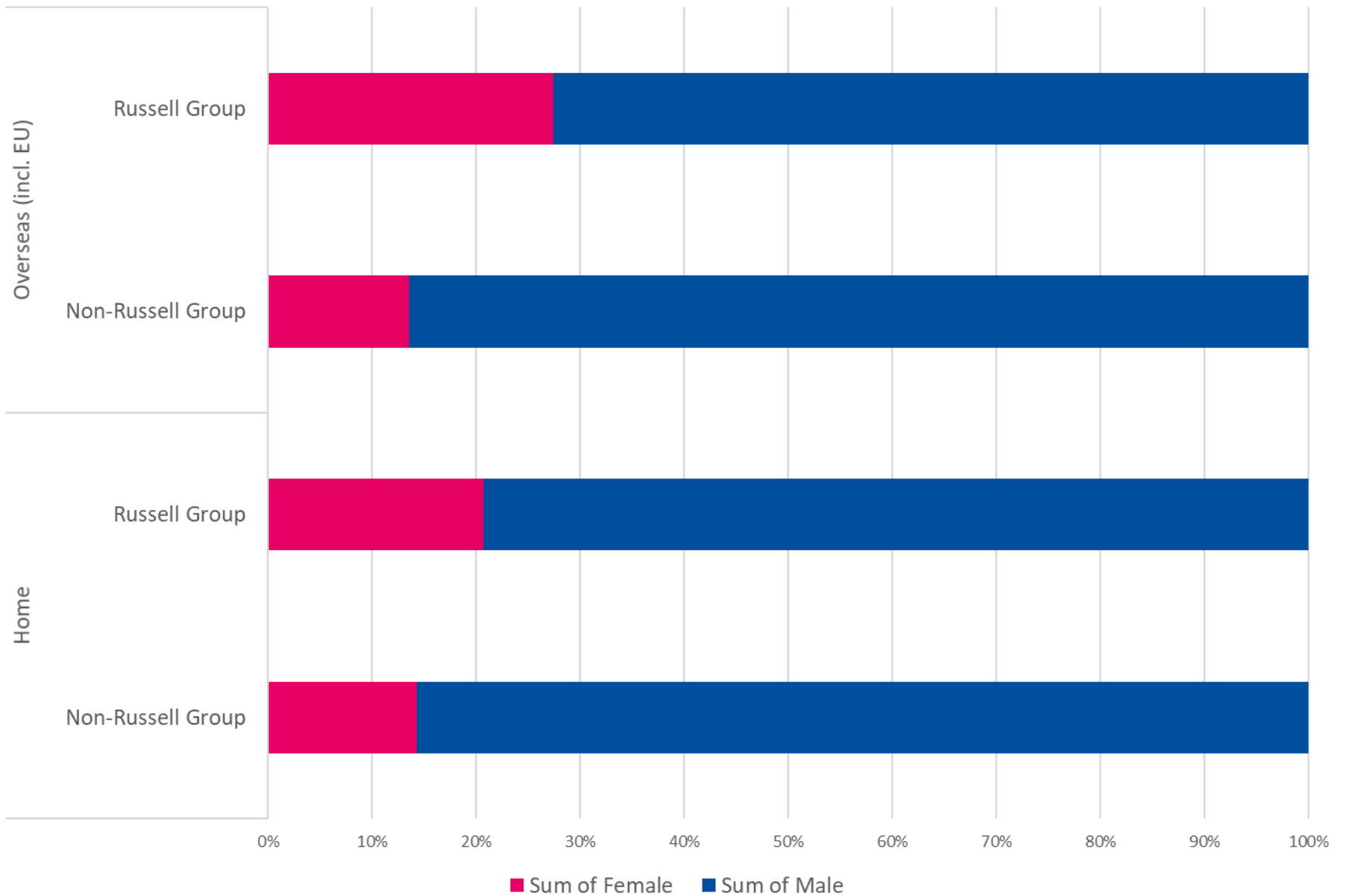
Regional engineering enrolments 2021/22 postgrad



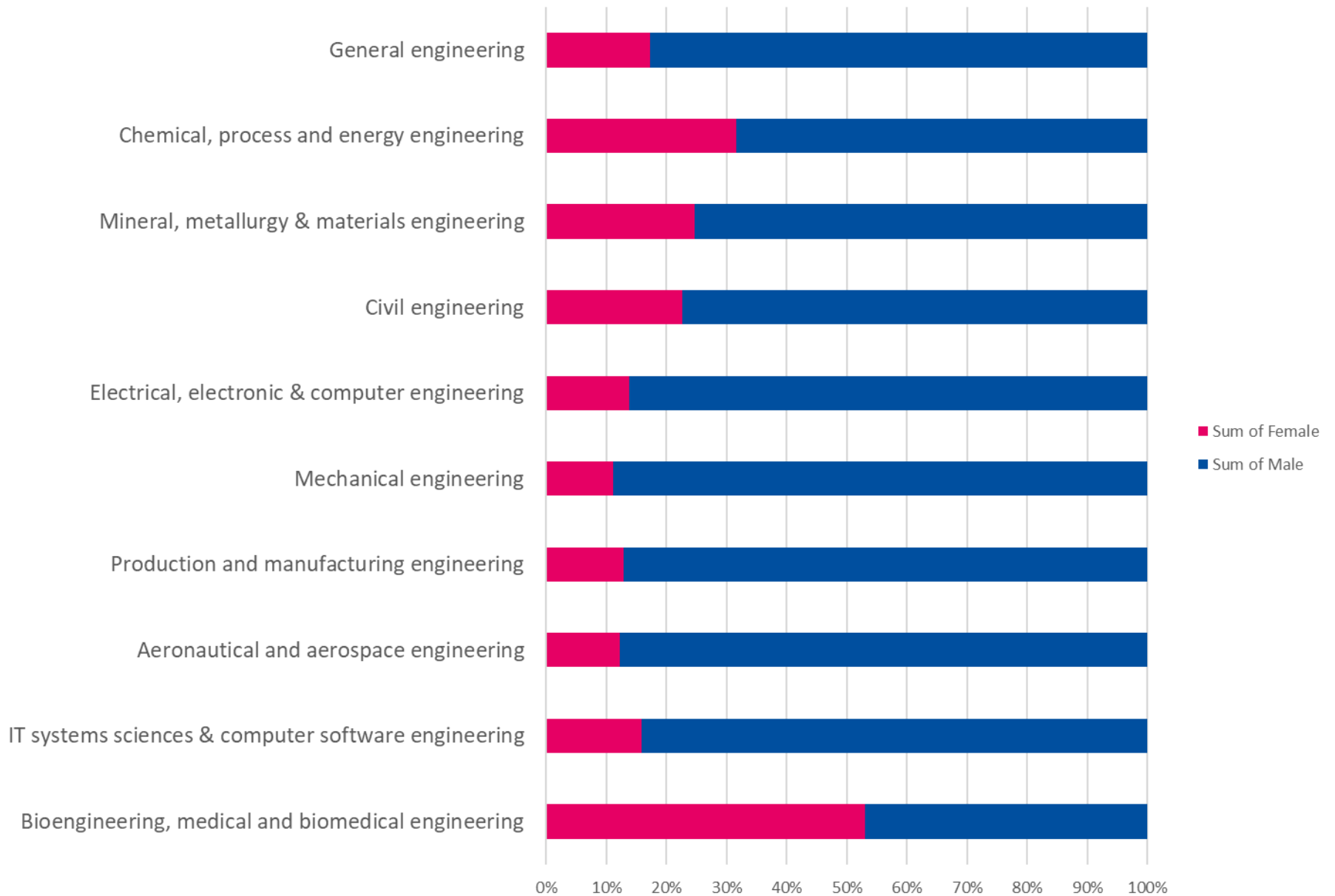
Regional engineering enrolments 2021/22 undergrad



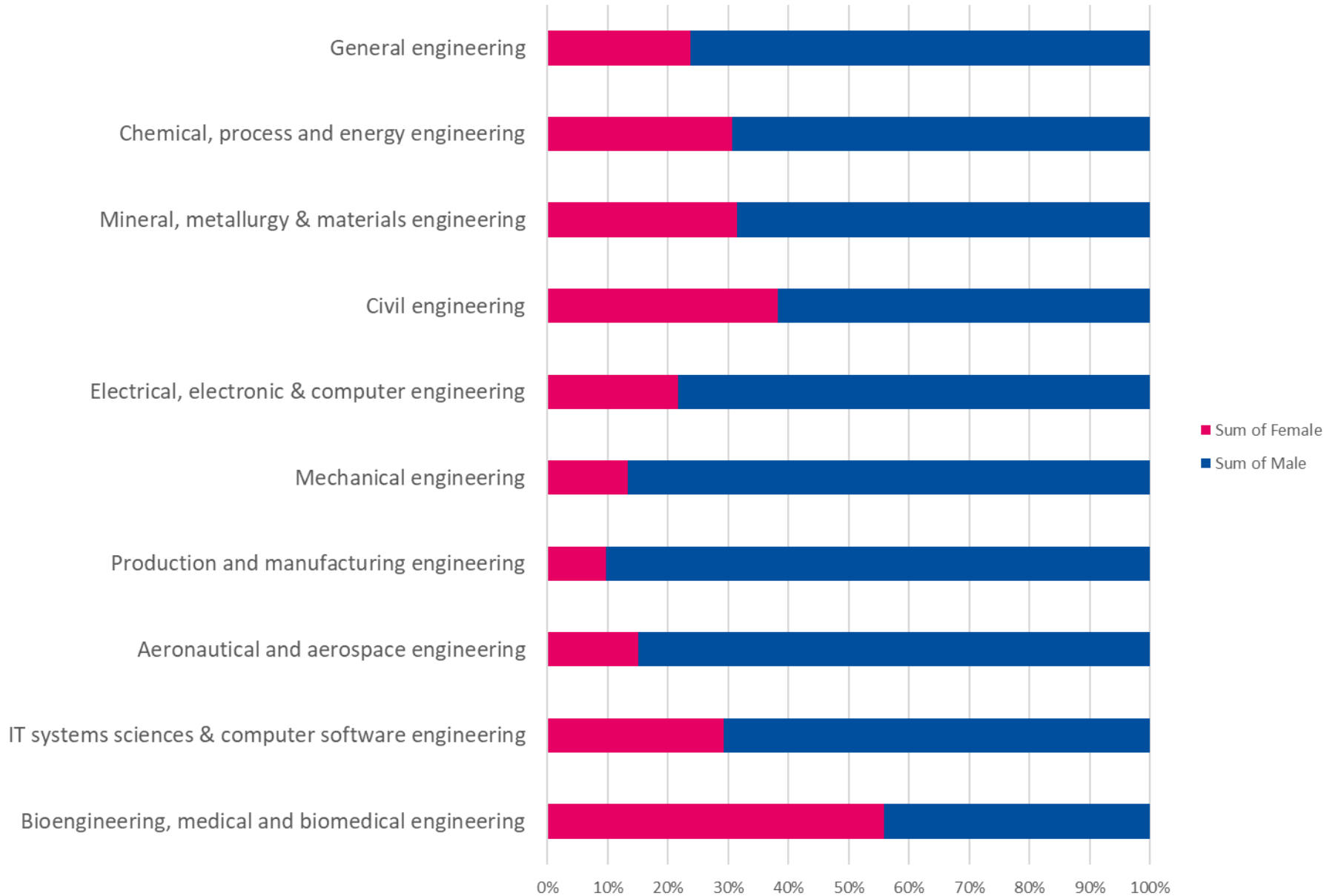
Engineering enrolments 2021/22, by gender



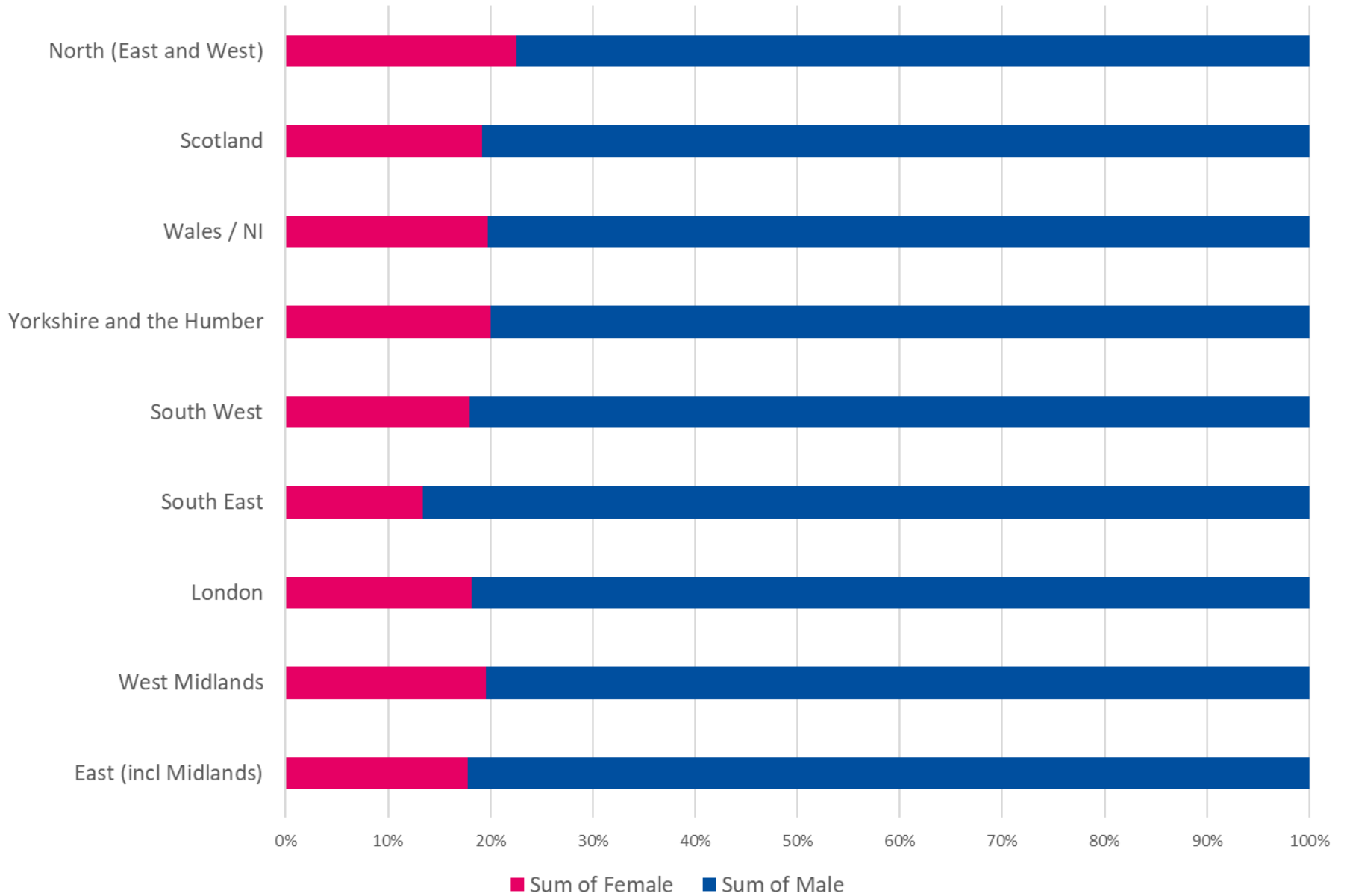
Women engineering enrolments 2021/22, undergrad



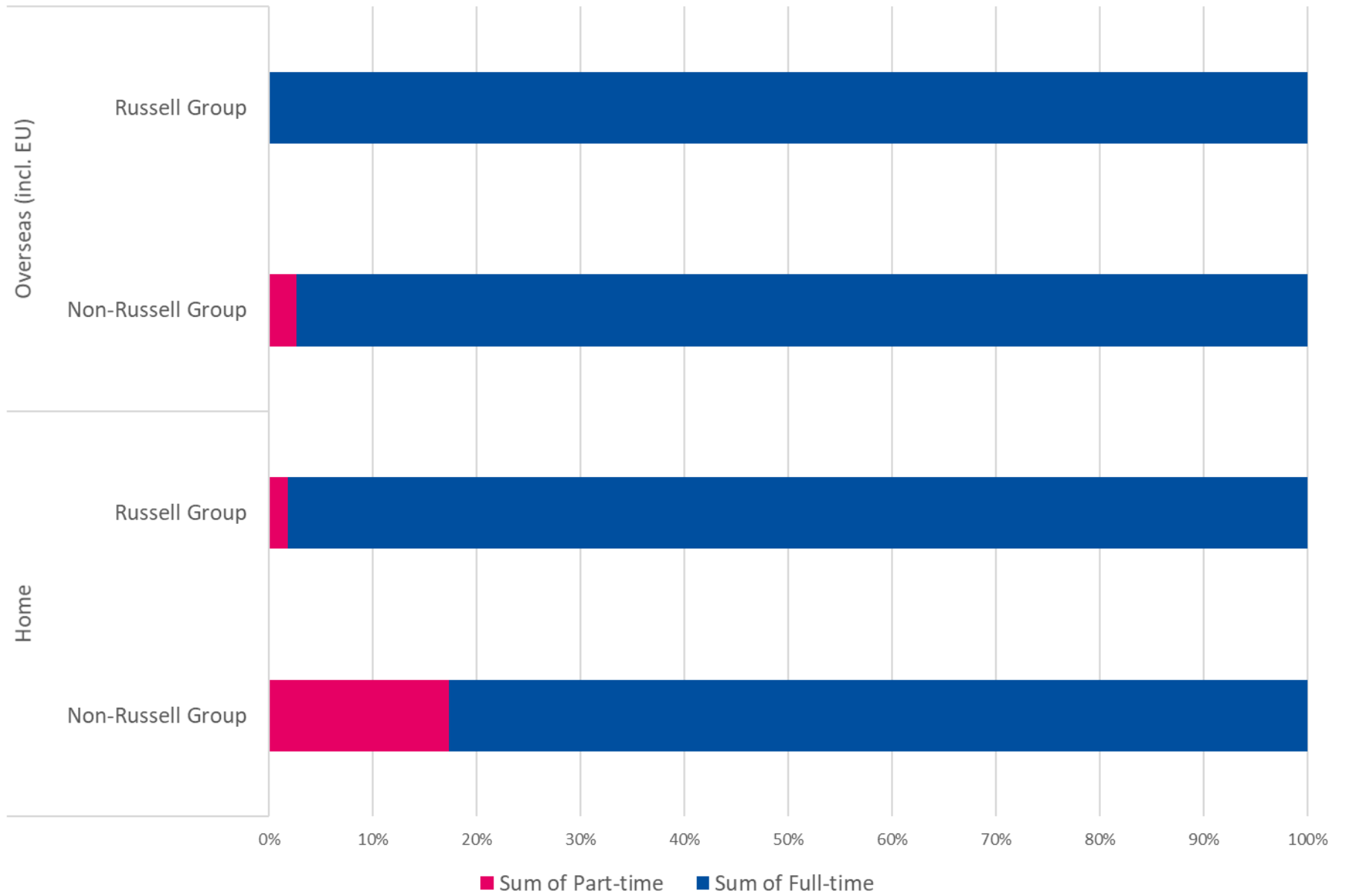
Women engineering enrolments 2021/22, postgrad



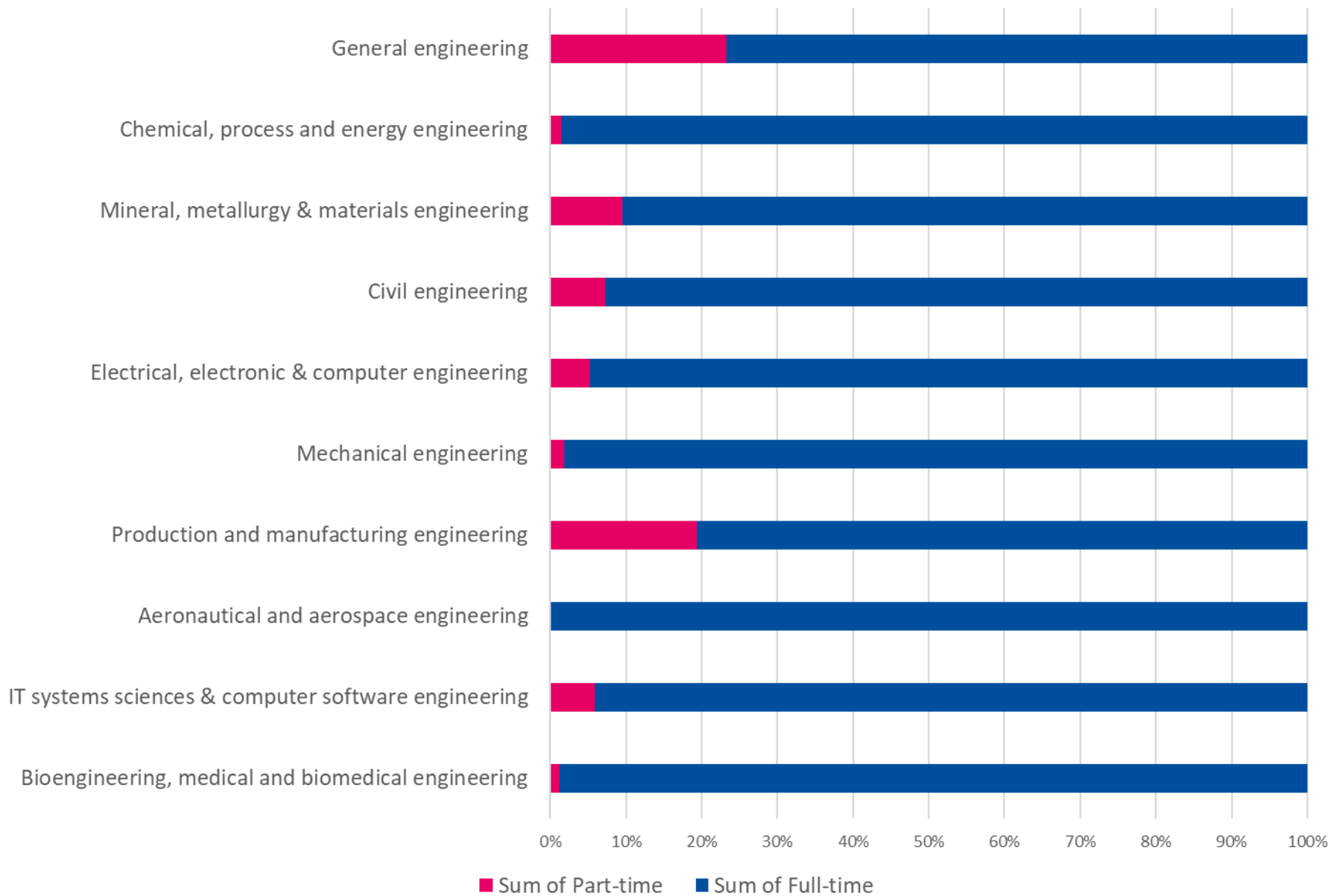
Engineering enrolments 2021/22, by gender



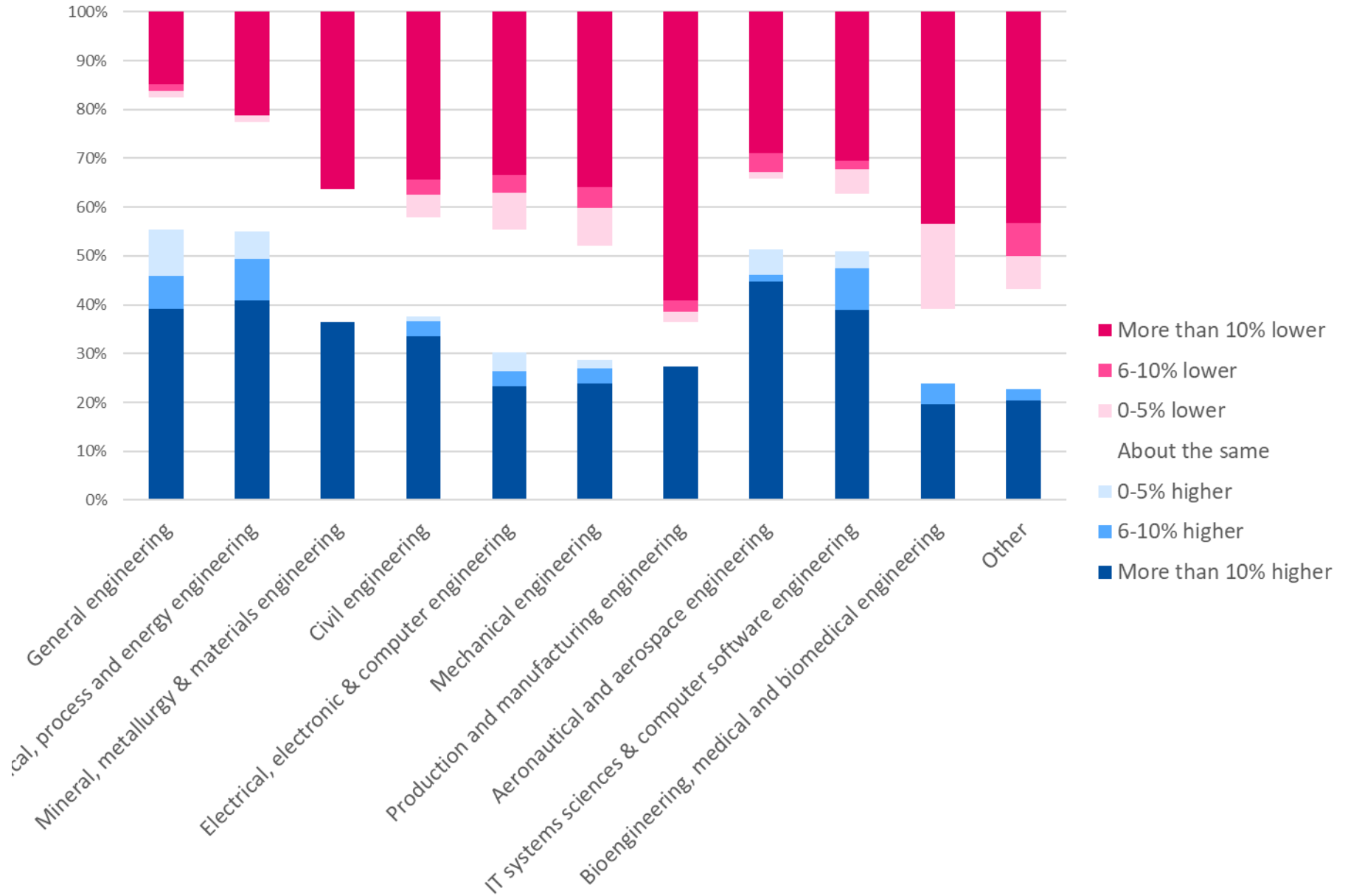
Engineering enrolments 2021/22, mode of study



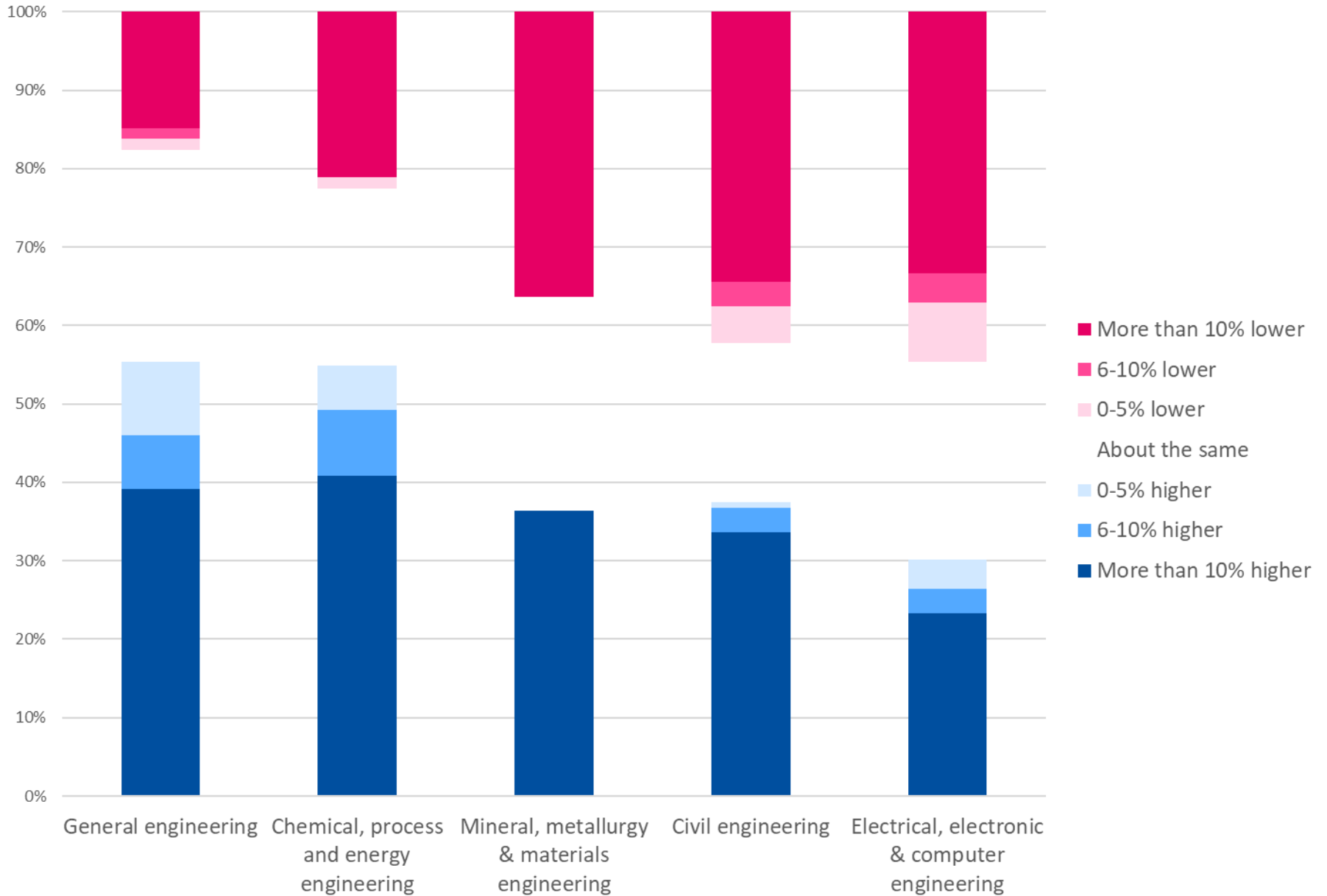
Engineering enrolments 2021/22, mode of study



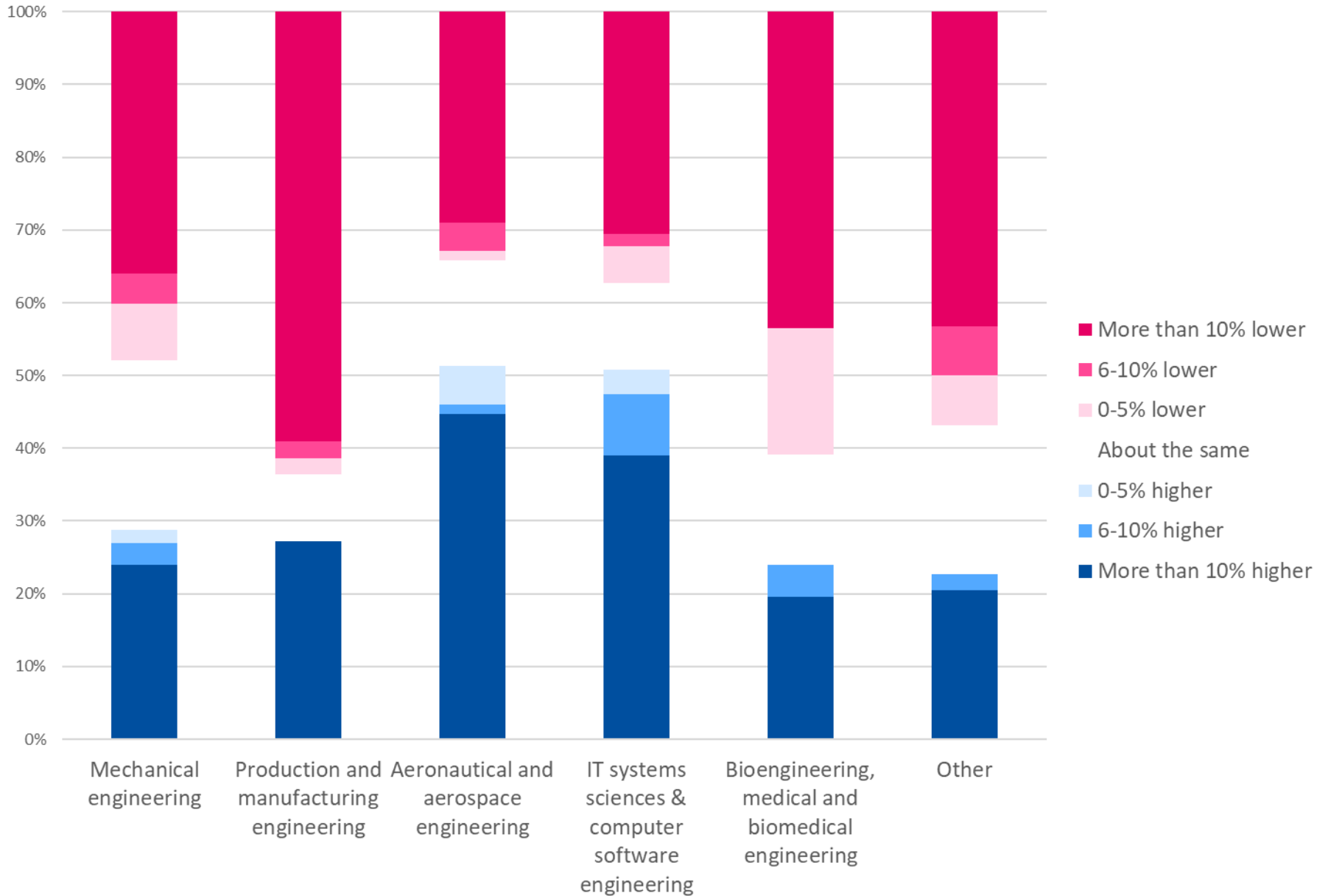
Higher or lower engineering enrolments 2021-22



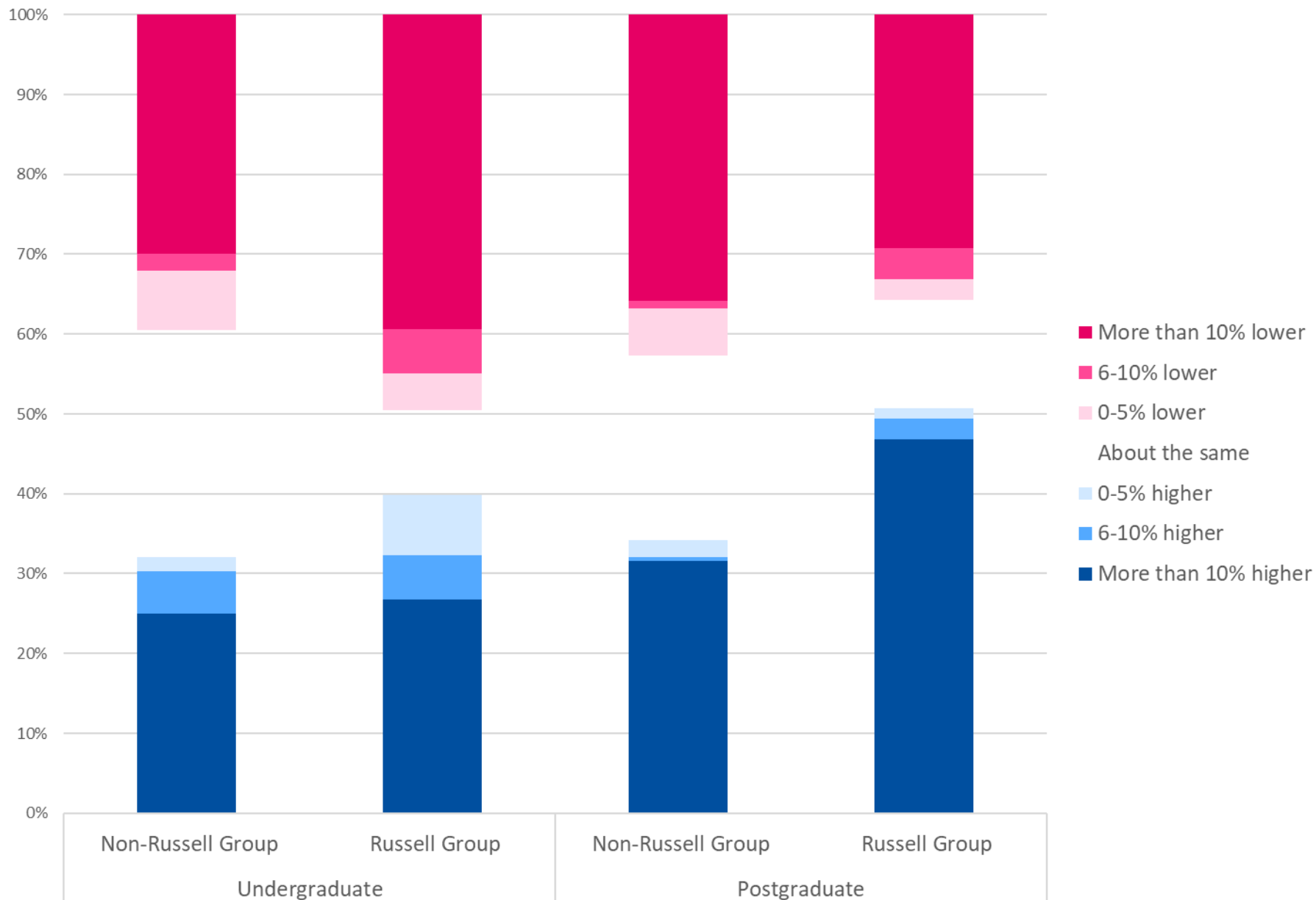
Higher or lower engineering enrolments 2021-22



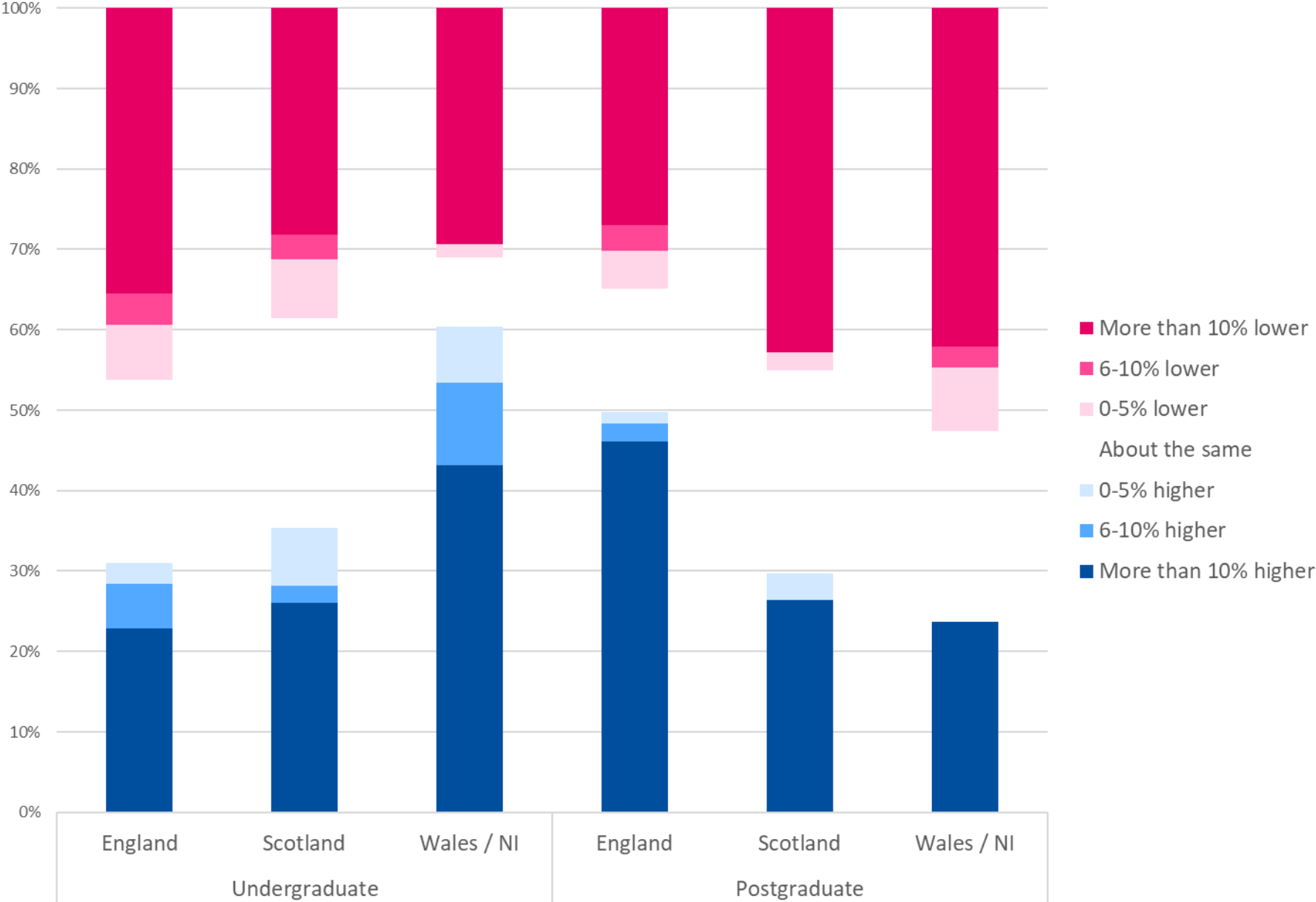
Higher or lower engineering enrolments 2021-22



Higher or lower engineering enrolments 2021-22, Russell Group



Higher or lower engineering enrolments 2021-22, Provider Country



Summary

Overall, volumes and first-degree distributions holding at pre-pandemic levels. Postgraduates up.

IT growing, is this the AI phenomenon? Electronic in decline, but not in other UG. Lifelong learning leader?

Strong home enrolments. Stable non-EU (esp. PG). EU plummet. Overall international decline because – or despite – of EU change.

Russell Group over-represented in postgrad: Strong internationally. Non-Russell Group dominate undergrad: Strong home market.

Other UG down 20%. Contracting market by uni type. Stifled innovation sub degree? Uncertainty pending Augar conclusions?



Closing reflections

- EPC survey offers early warning signals, not the definitive word
- Recruitment / selection is made in context
 - National pressures (Covid, CAGs)
 - Institutional strategies and targets
- The results will also be launched online shortly
- Questions and feedback welcome
 - Via LinkedIn or Twitter
 - s.fowler@epc.ac.uk
 - Is the survey's value to you greater than its burden?
- Thank you



Overall distributions

- Mechanical engineering reported the most enrolments
- Then, in order of new enrolment volumes (+3000):
 - Electrical, electronic and computer engineering
 - IT system sciences and computer software engineering
 - Civil engineering
 - General engineering
- Distribution echoed at UG, at PG, same top 5 but Mechanical and electrical switch for the lead
- Mineral, metallurgy and materials engineering = least (mostly PG)
- Additionally, Civil, Electrical and Production are well represented at PG proportionally. Aeronautical and aerospace least well.



Regional enrolments

- Distribution is concentrated north of the Midlands
 - Home enrolments strong in Scotland
 - North is standout for overseas enrolments
 - Including Europe at postgraduate level
- Wales / NI has the least / smallest proportion of overseas
- Russell Group dominate postgrad engineering enrolments
 - Stronger overseas representation
 - In actual terms, the difference distribution between RG and non-RG is the international contingent
- Non-Russell Group dominate undergrad enrolments
 - Strong home market
- EU absent from London and Yorkshire (PG) completely?



Women engineering enrolments

- Recruiting from further afield increases female enrolments
 - Particularly if you're in the Russell Group...
 - (And enrolling postgraduates)
- Undergraduate engineering has a poorer female:male ratio
- Gender stereotypes permeate engineering enrolments
 - Over half of enrolments in Bioengineering, medical and biomedical engineering were female.
 - More women than average in Chemical, Mineral and Civil
 - Fewer women than average in Production, Mechanical and aeronautical
- Gender balance of FDs and DAs more aligned with first degree this year

