APPENDIX 4: Alignment to University Strategy

The Physics strategy is in full alignment with that agreed by the University Council in 2018 for the institution as a whole:

By 2030, Warwick will be one of the world's exceptional universities, helping to transform our region, country and world for the collective good.

Warwick in 2030 will be larger than now, both in our student population and our research. That growth will be sustainable and will never compromise on quality.	• Physics will grow its student population by 25%, reaching 1,000 by 2030 without compromising on quality. • Concomitant staff increases and greater research impact will lift Warwick Physics above other mid-sized UK physics departments. • Growth will be facilitated by iconic buildings delivered via the STEM Grand Challenge, Science Campus Development.
Research at Warwick will be internationally recognised as world class with impact and purpose: making lives healthier, fairer, safer, more just and resilient, and more enriched.	• Physics aims to be in the UK top 10 as measured by REF. • Our academics lead major international research projects, e.g. PLATO, LHCb, DUNE.
• *Undertake world-leading and purposeful disciplinary and interdisciplinary research which can lead to positive transformation in our world*	• Research outputs are published in highly cited journals e.g. *Science, Nature*. • We lead interdisciplinary activity, e.g. in materials science, computational materials modelling, biomedical physics, complexity, habitability.
• *Champion and develop state-of-the-art research infrastructure and ethical research practice, while enabling sustainable research leadership and inspiring innovation*	• Warwick physicists lead UK National Facilities: ssNMR and XMaS, providing state-of-the-art facilities to the scientific community. • Experimental research infrastructure on-campus with major Physics involvement and made available for interdisciplinary and external use includes electron microscopy, x-ray diffraction, spectroscopy, NMR, x-ray photoemission, ultra-fast spectroscopy. • Warwick's high performance computing is directed by Physics, and our staff are prominent in UK national supercomputer activity.
• *Communicate the purpose, relevance and impact of our research locally, nationally and globally to enrich knowledge and awareness.*	• Our research is regularly publicised through Press Releases and public engagement events such as the British Science Festival. • Physics developed the Warwick Christmas Lectures into an institutional showcase.

A Warwick education will be more research-led and international in outlook. The effects will be transformative and enriching for our students and their impact on society.	• Our teaching comes from research active staff – all our academics engage with undergraduates. Physics research is inherently international in outlook and in practice, with most of our staff participating in international projects or partnerships. • Undergraduate students have opportunities to perform original research within their course and through placements (URSS) in research groups. • Postgraduates may be embedded in inter-national consortia, spend time at international facilities, and all will have opportunities to attend international conferences.
• *Provide our students with an internationally outstanding teaching and learning experience across the entire lifecycle from applicant, to student, to alumni, supported by an institutional culture and systems, making for continuous enhancement of quality*	• Quality enhancement will remain paramount in our delivery of all stages of the student experience. • We aim to satisfy our students and see this reflected in NSS. • We will aspire to recognition via both TEF Gold and Athena Gold.
• *Ensure students can progress into their choice of high quality employment through skills development, work experience, employer and alumni relations*	• Physics graduates already exploit the wide range of skills developed during their course to secure employment, as borne out by sector leading DLHE and LEO data. • We will ensure their skills remain relevant e.g. by updating training in computing programming. • Alumni are contacted with an annual newsletter and have been engaged in employment departmental fairs. Greater alumni support is needed at the institutional level in order to fully develop our relationships.
• *Develop and enhance alternative and sector-leading pathways to a Warwick education.*	• An extensive outreach program focusses on supporting teachers and pupils in local, under-privileged schools, and on encouraging girls to continue in science education. The diversity of our student body reflects success. • Development of PGT training will provide additional routes into research and CPD for physicists in employment.

Our activities contribute to each of the four strategic priorities:

1. *Innovation*

We will engage with companies in joint research and development projects and provide access to our research facilities.

We will actively support the delivery of impact from our research:

- by resourcing activities with potential for impact;
- by providing staff with Impact Leave and time to devote to innovation and commercialisation of their research;
- by supporting KTP Associates and employing innovation fellows;
- by working with experts in technology transfer;
- by training entrepreneurs e.g. iCure, and allowing Career Breaks to start-up companies.

2. *Inclusion*

The principles of equality and diversity are deeply embedded within the culture of the Department.

We take pride in being an aspirational workplace.

We will preserve our IOP Juno Champion status and aspire to convert our Athena SWAN Silver to Gold.

The diversity of the student body will continue to increase, stimulated by our outreach programs and welcoming environment.

3. *Regional Leadership*

We coordinate and host regional activities, e.g. bid to upgrade Tier 2 computing facilities in the Midlands.

Regional industries access many of our research facilities, via WSS. Greater take-up of these opportunities will occur with active promotion.

Student placements and company inspired projects will be explored with employers in the region.

The Midlands Physics Alliance provides shared resource for graduate teaching, but we can make more of this regional partnership.

We have extensive engagement with regional schools and colleges through our outreach. We will aim for greater coordination with other Warwick departments. There is also scope for greater joint engagement with Coventry University.

4. *International*

Physics is by its nature an international community.

At postgraduate level, all students will experience international partnerships, may use international facilities, and travel to international meetings.

Most academics have international collaborators; we have focussed partnerships with Monash; and research student exchanges with NTU.

In particle physics, we have deep involvement, and leadership roles, in international experiments based in CERN, Japan and USA.

In astrophysics, we use telescope facilities across the world (and outside it in space). We have telescopes in the best observing sites – GOTO and SuperWASP in La Palma, NGTS in Chile. We have scientific leadership of ESA's space telescope PLATO.

We contribute to Eurofusion activity at ITER.

CMP researchers use beamlines across the world and run facilities in Grenoble (XMaS) and Japan (Spring-8).

A small number of undergraduates take a year abroad during their degree – we would like to see this expand, with proper support and promotion.