

China-Birmingham Investors Summit

Collaborating through responsive relationships

Professor Sir David Eastwood, Tuesday 28th October 2014

Good afternoon ladies and gentleman, and let me start by saying what a great pleasure it is for me to be here today.

Nothing could be more timely, or more important to our long-term global positioning, than today's summit.

I am particularly pleased to be speaking here for two reasons.

Firstly we see the University of Birmingham as leading the way in creating deep and meaningful partnerships in and with China.

And secondly, we very much see it as an integral part of our mission to work with key global partners to respond to major global problems. By their very nature these are grand challenges, but challenges that are best approached and addressed in the spirit of collaboration.

The University of Birmingham has a long and proud history of international collaboration. From our foundation in 1900 to our

position today as (we think) the premier civic university in the United Kingdom, we have built – and continue to build – a position of major international standing and influence. We are comfortably amongst the world's top 100 universities and the latest QS World University Rankings place us at 64th in the world.

The University is a central element of the Birmingham economy as an educator, an employer, a research leader and, of course, as a leading global university.

In 2011/12 we generated £1.1bn of spending in the West Midlands economy – that supports nearly 12,000 jobs and is an increase of nearly 40% over six years. 87% of the research income received by all Birmingham Higher Education Institutions came to us, and we generated nearly 5,000 research outputs. In 2013/14, we recorded 157 records of invention and filed 89 patents.

Our current capital programme will see £500m invested in a new sports centre (which will house the only 50m swimming pool in the region), a new library, and the UK's first University Training School.

The University is one of the strongest bridges between Birmingham and China. Around 100 of our staff and 1,200 of our students are from China, and collaborative relationships form the core of our endeavour. The University is in the top three in the UK for the number of joint publications with Chinese collaborators, whilst our global network of university partners includes Fudan, the University of Science and Technology of China, Sun Yat-sen, and Shanghai Jiao Tong.

We have a particularly strong relationship with Guangzhou. Our Guangzhou Centre was established in September 2011 at the same time that we signed a strategic collaboration agreement with Guangzhou Municipal Government. So far this has enabled three phases of joint research which utilise areas of

excellence from the University of Birmingham to contribute to the economic, social and cultural development of Guangzhou. Last week we heard that a further five projects have been funded, spanning a range of disciplines from childhood obesity to water cooling systems.

The Guangzhou approach is illustrative of the way in which we prefer to develop partnerships – a collaborative investment model, which includes opportunities for two-way capacity and capability building. Our approach is not simply ‘come to Birmingham’; rather it is about building on our respective strengths to respond to shared priorities.

Our priorities in China resonate strongly with those identified by Premier Li Keqiang and Prime Minister David Cameron earlier this year. I will briefly highlight four - railways, civil nuclear power, genomics and biomedical.

Firstly, railways

Our Centre for Railway Research and Education is the largest academic railway group in Europe, known for its pioneering International MSc programme in Railway Systems Engineering, which takes students from around the world. Having trained many of the leading CTOs and CEOs of railway companies across the world, we are, as you might expect, well networked into the railway family.

We work broadly with China's vibrant railway sector across three domains: education, early level TRL (Technology Readiness Level) research, and knowledge transfer at mid-level TRLs.

As with so many of our Chinese partnerships, our model is based around collaborative investment in response to local need.

We have partnerships in Beijing and Zhejiang [“Je Jang”], where we spent 2013 training staff from Zhejiang University to

commence a new graduate diploma course in Railway Risk and Safety Management from this month. Financially supported by the Lloyd's Register Foundation this provides much-needed local expertise to address a current skills shortage.

Our most significant railway relationship was formed in September 2013, when we established the Anhui-Birmingham International Research Institute in Rail Transportation.

Alongside research into whole life cycle cost reductions, the institute has a strong role in supporting the production of talent to support the many cities in Anhui that are rapidly expanding their metro, light rail and high speed rail systems.

Research into high speed rail technology is a particular focus for the institute. In the UK, the University is a partner in the UK's high speed rail academy to train technicians and apprentices, and the Anhui institute is located in Hefei alongside one of the China High Speed Train Authorities, so this forms an important next avenue of collaboration for us with Chinese colleagues.

Secondly, civil nuclear energy

Our University is one of the top three UK universities for research into civil nuclear energy and the strongest for education – we are the largest provider of graduates to the industry, having graduated 800 students since 1956. We have a strong track record in driving UK nuclear energy policy, including the recent publication of our widely-acknowledged *Future of Nuclear Energy in the UK* report.

In July this year, we signed a major collaboration with China General Nuclear Power Corporation (CGN) to forge a strategic partnership in the education, research and development of civil nuclear energy studies. The collaboration will include the University of Science and Technology of China (USTC) and Xiamen University. Once more the model is very much two-way, as we explore mutually beneficial research partnerships and look to secure funding from the UK-China Newton Fund.

Thirdly, genomics

Relationships form the bedrock of a ground-breaking agreement between the University and BGI, the world's largest genome research institute, to create the Joint Centre for Environmental Omics.

At its launch in July of this year, I highlighted a key lesson, which is that the success of any collaboration - however grand in scale - depends on the enthusiasm, vision, and commitment of a few key individuals.

Jointly operated with the BGI China National GeneBank and located on the University's Edgbaston campus, our centre will specialise in automated ultra-high-throughput sample processing. BGI will staff the centre with laboratory technicians and bioinformaticians, who will collaborate with Birmingham scientists on a variety of projects.

By providing a platform for world class research and training in how societies respond to chemical pollution, the Centre will allow us to improve environmental health not only in our two countries, but around the globe.

Finally, biomedical

The University's portfolio of biomedical work in Guangzhou is probably unsurpassed amongst overseas universities working in China. We have been investing in research, clinical, public health and training interventions for a decade now, and the Guangzhou Biobank Cohort Study is perhaps the most productive research collaboration between China and the UK. Launched in 2003 to focus on the development of chronic diseases, it is the largest medical intervention of its kind in the world, and we now have information on the lifestyles, environmental exposures and physical measurements of over 30,000 men and women, along with DNA, live cells and plasma.

The study has generated more than 80 international publications in the last six years, including a remarkably powerful paper published in 2007 which estimated that 1.9m people in China would die from chronic obstructive pulmonary disease as a result of passive smoking. Selected as one of the twelve most important medical research papers published

globally that year, the paper made a significant contribution to the tightening of national and local legislation on smoking in public areas.

Had I time, I would have liked to tell you about our work with the China State Grid Research Institute on high voltage DC conversion; or our Manufacturing Technology Centre which works with nearly 80 industrial partners to develop cutting edge manufacturing process techniques, and to which we will shortly be hosting a visit from the Guangzhou Science, Technology and Innovation Bureau.

But there isn't time, so let me summarise the common theme which brings these diverse areas together, which is that all are reliant for their success on collaboration through responsive relationships.

Something of this was brought home to me recently when I was speaking to a senior executive in Rolls Royce. We are key

partners with Rolls Royce in a number of areas, including
Advanced Materials.

When I said to him that I quite understood the basis of our relationship and that if we failed to deliver they would go elsewhere for their university partner, he responded that I was quite wrong and if we failed to deliver planes would fall out of the air. That brought home really rather graphically the intimacy of the relationship between a leading research university and a leading manufacturer.

The University of Birmingham is an authentic collaborating partner. We are used to partnering, and – if you will forgive my immodesty – we are rather good at it. It is a level of experience and commitment matched by few others.

What distinguishes our work with China? As one of the leading research institutions in the UK, we are characterised by our

ability to pioneer whilst remaining grounded in reality. Our Chinese partnerships, like all of our work, arise from intellectual curiosity and research power, but are focused on creating innovative, practical, and enduring solutions to big issues.

In short, our collaborations make important things happen, and we look forward to strengthening and building more of them in the future.