



Brazil beckons for university-industry teams

As the 2014 World Cup qualifiers begin, the words Brazil and teams are likely to be increasingly linked together - and not solely in the context of the beautiful game. Because the largest country in South America - famed for its prowess on the football pitch and its huge untapped natural resources - is today the world's sixth largest economy, and on an upwards trajectory as a major hydrocarbon province. Maximising its potential however will need another kind of team.

Wearing the captain's armband is Brazilian premier Dilma Rousseff, whose government must strategically steer play towards the goal of a highly skilled home workforce for its energy industry. A creative midfield is available, in the form of the Brazilian universities and the new partnerships they are making with experienced peer institutions in the world's established energy hubs. Critical to scoring the goal, however, will be the large multinational energy players who will fund the scholarships and learning opportunities that the universities are well placed to provide.

This team is indeed the thinking behind recent moves by the Brazilian government to grow the capacity and skills of its home workforce through bringing together the world's best education providers with experienced global businesses keen to share in its rich potential in many forms of energy.

It's an opportunity the University of Aberdeen has been quick to seize. Today it is spearheading the UK's involvement in a new partnership programme which will see the first cohort of Brazilian postgraduate students arrive in Aberdeen this September.

"We're fortunate to have been able to take a lead in working with the Brazilian government, universities and industry partners, to provide professional development for a new generation of Brazil's energy professionals," says Ben Kneller, the professor of petroleum geology who is leading the University's involvement. "Being at the heart of the North Sea industry puts Aberdeen in a unique position. We're looking forward to welcoming the first group of twenty Brazilian students who will complete their PhDs with us."

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BG Group, a long-term player in Brazil, was quick to commit to funding up to 450 new scholarships for Brazilian PhD students to study outside of Brazil over the next five years, and this number is likely to be increased in the longer term. The first tranche is the 20 students coming to Aberdeen to work towards doctorates in petroleum geology, in partnership with the Federal University of Rio Grande do Sul (UFRGS), Brazil's top petroleum geoscience institution.

The arrangement will be part of Brazil's 'Science without Borders' campaign, whereby students' living costs are funded by the Brazilian Government agencies in higher education. Tuition fees and research costs are being provided by BG through Brazil's Special Participation initiative – a partnership between the Brazilian government, the industry partner, and a Brazilian university – which can be linked to another university elsewhere in the world.

For the industry partner this is an opportunity born of obligation. All energy companies operating in Brazil are required to re-invest

1% of their production revenue from large oil and gas fields on R&D, and there is a similar requirement on power generation, transmission and distribution companies, water utilities and telecommunications firms. At least half this sum must be spent with Brazilian academic institutions – though some can go to external partners and foreign academic visitors – and the other half can be spent within the company's own research facilities or with external contractors – which can include a foreign university.

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industry to benefit from the strength of his own university. For him it is an obvious win-win relationship.

"We have so much to offer," he says. "If we look just at my own area, for example, Aberdeen has long been a centre of excellence for teaching and research in geosciences. We are simply very good at petroleum geology.

"The University is well equipped with industry-standard hardware and software, and facilities including our unique exploration training centre and programme exploHUB, the seisLAB for subsurface research, the Halliburton Visualisation Suite, state-of-the-art petrophysics and chemistry labs – and of course our outstanding new library and sports facilities.

"And in addition to the quality of our courses, our students benefit from the experience of being surrounded by a mature, innovating energy industry, and immersed in the real-life challenges it faces today."

Science without Borders also provides the opportunity for Brazilian undergraduate or postgraduate students to spend a year at an overseas university as part of their course.

And the partnerships don't end at graduation. Aberdeen is involved in research partnerships with UFRGS and another leading geoscience university UNISINOS (the University of the Sinus Valley). Two Aberdeen researchers are

about to leave for UFRGS to work on seismic and hydrocarbon science projects, and a Brazilian colleague from UNISINOS will arrive in Aberdeen shortly.

For Ben Kneller the success of any team is all about relationships. "To make this succeed requires investing in peer to peer contacts at the level of individual academics and research teams," says Ben. "Yes, MoUs are important and give a helpful framework, but this is also about relationships on the ground, getting to know each other not only as organisations but as scientists and engineers and colleagues. We're making good progress certainly, but the potential is huge."

"At the heart of this effort are the young people coming into the industry wherever they live and wherever they choose to develop their careers; they are the future of what must surely be the most internationalised industry in the world. We must work as a team with other universities, in Brazil, UK and elsewhere – and most importantly with industry – to give this new generation the very best global education, experience, outlook and opportunities for a successful career." □

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