Universities across OECD countries are assuming new responsibilities as drivers of local and national economies. They play an important role in teaching the necessary technical, scientific and creative skills for today’s knowledge economy and are actively engaged in both educating students about entrepreneurship and supporting existing and potential enterprises. Many have established entrepreneurship professorships, departments and institutes for entrepreneurship that already feature as integral parts of the internal support structure. Dedicated start-up support services in entrepreneurship centres and technology transfer units offer consultation and access to networks and premises to would-be entrepreneurs and those already in the start-up process.

Universities now need to adapt to innovative and best practice methods in entrepreneurship education and to strengthen their entrepreneurship support infrastructures. The LEED Programme has been working in this field for over 10 years now with the overall aim of helping national and local governments and universities in making their local entrepreneurship support more effective. The LEED approach has always been to help its members learn from an international exchange of best (and worst) practice, thus learning from what does - and doesn’t work. This has guided our project with the German Federal Ministry of Transport, Building and Urban Affairs on policy options for increasing entrepreneurship in the Eastern German Länder and the Halle good practice workshop on “Universities, Innovation and Entrepreneurship” that we held with the Ministry in June 2009. Highlights from both are featured in this issue of CFE Insight.

By reading the interviews in this issue, you will have a better understanding of the role of alumni, the need to break with conventions in teaching entrepreneurship, the role of culture and the differences between the US and Europe, the importance of qualified teachers and start-up support staff and the six dimensions that constitute good practice in university entrepreneurship support. I hope you have an enjoyable read.

Index:
- **Universities are at the hub of entrepreneurship**
  Editorial by Sergio Arzeni, Head of the OECD LEED Programme and Director of the OECD Centre for Entrepreneurship, SMEs and Local Development

- **How do universities in Eastern Germany teach entrepreneurship and how can they improve?**
  Interview with Jonathan Potter, OECD Senior Economist and Andrea-Rosalinde Hofer, OECD Policy Analyst

- **Promoting business in Germany with the LEED Programme**
  Interview with Wolfgang Tiefensee, German Federal Government Minister for Transport, Building and Urban Affairs and Commissioner for Eastern Germany, Germany

- **Making innovative entrepreneurs**
  Interview with Philip Phan, Professor and Vice Dean for Faculty and Research, the Johns Hopkins Carey Business School, USA

- **Filling in the gaps in entrepreneurship teaching**
  Interview with FGünter Faltin, Professor of Entrepreneurship, Freie University, Berlin

- **Changing the entrepreneurial mindset through a four pillar approach**
  Interview with Professor Grünwald, Recor, University of Wismar

- **Helping students to become more entrepreneurial in Poland**
  Interview with Prof. Krzysztof Zieba, Gdańsk University of Technology

- **Mentoring Entrepreneurs at the Entrepreneurship Centre in Berlin**
  Interview with Agnes Von Matuschka, Head of the Entrepreneurship Centre, Gründungsservice, at the Technical University of Berlin

- **SMEs, Entrepreneurship and Innovation**
  By Pier Carlo Padoan, OECD Deputy Secretary General in charge of the OECD Innovation Strategy
How do universities in Eastern Germany teach entrepreneurship and how can they improve?

Interview with Jonathan Potter, OECD Senior Economist and Andrea-Rosalinde Hofer, OECD Policy Analyst

What was aim of the Halle conference?

We wanted to bring together universities from eastern Germany – a region we have been involved with for some time – and other countries to discuss how to give support to entrepreneurship. We wanted to do it within a common framework of understanding, which we set out as the OECD. Obviously, entrepreneurship support is important everywhere but especially so in Eastern Germany where after 20 years of reunification there is still the challenge of creating jobs and raising living standards up to the levels of Western Germany. There has been progress, but that convergence has not yet been achieved. Increasingly there is an appreciation that government spending on infrastructure, incentives for the attraction of large scale foreign investment and so on is all very well but long-term growth has to come from inside the region as well. And it can only come from new product development, increasing efficiency, marketing and other features of entrepreneurship behaviour. That requires knowledge and the best place to find it is in the university.

You set out six dimensions of good practice in university entrepreneurship support. What is the aim of this exercise?

We established the six dimensions, or the good practice criteria list, as we call it, from the innovation and entrepreneurship literature and our case study work. The idea was to develop an assessment framework that helps us in our review and policy development work, but at the same time to come up with a "tool" that universities can use to self-assess and re-orient their current strategy, structure and practice in entrepreneurship support. Within each of the six dimensions – strategy; finance and investment; support infrastructure; entrepreneurship education; start-up support; and evaluation – there are a number of principles of good practice or, if you want, benchmarks for universities. For example, under the “strategy” dimension we established four principles: first, entrepreneurship support should be a strategic objective of the university which is endorsed by top management as well as faculties; second the objective of entrepreneurship support should include generating entrepreneurial attitudes, behaviour and skills as well as enhancing business start-ups; third, there should be clear incentives and rewards for professors, researchers and students to engage; and, finally, recruitment and career development of academic staff should be "entrepreneurship sensitive", meaning that previous entrepreneurial careers and active promotion of entrepreneurship should be recognised.

So which was the best university?

We can’t say there is a best university and this was not the overall aim of the exercise! Entrepreneurship is still ‘added on’ by many universities to their main research and teaching activities and not given real importance. But universities are not single organisations in this but collections of agents – there is the management, the faculties and departments, the professors, the students, etc. the quality of university entrepreneurship depends on all of these. Becoming an entrepreneurial university is a long-term process which requires commitment at many levels and often specific public funding for entrepreneurship. There are clear signs that universities in OECD countries are beginning to take their entrepreneurship mission seriously, and hence the interest in the OECD project. Our aim is to assist decision makers in universities and politics to improve and innovate, building on the international exchange in the Halle workshop.

You mentioned Halle. How did you organise the international exchange of good practice?

LEED has long-standing experience in organising international exchange and learning events; we also organise capacity building seminars at our centre in Trento. LEED provides the framework for the exchange, based on country-specific and comparative analysis. And this is how Halle worked. We got delegates from the policy making level and university management involved in round table discussions around the major findings from our work which paved the way to the core element of the Halle event – the good practice exchange. We organised a ‘market’-type exchange environment which we called openspace where good practice methods are under the lens. At Halle, we had 21 university entrepreneurship support initiatives from Germany
and elsewhere – Poland, Finland, the UK, the US, Sweden, and South Africa. This created a forum for networking and idea generation, which was really appreciated. People were able to engage with each other, exchange good practice and ask some detailed questions on what works well, why it works and where are the main pitfalls and challenges.

And you as OECD experts also had an input.

Yes, we’ve reviewed university entrepreneurship support in three places in East Germany: Halle, Rostock and Berlin and we’ve looked at the literature, talked to experts and compared with universities elsewhere. The result of our analysis is four basic recommendations on ways to improve. One point is that we feel the common definition of entrepreneurship in universities is too narrow. It’s too much focussed on getting students to “start up.” We believe it is important to go beyond that. We have to recognise that students may not want to start up their own businesses straightaway. And it is important too to impart entrepreneurship skills that can be used in a wide variety of ways, not just in start-ups. We need to go beyond the regular fare of business plan competitions and grants for start-ups and teach entrepreneurial attitudes and behaviours across the curriculum.

A second point is that though there are many professors who are energetic and talented, too many are being asked to teach entrepreneurship without any training in how to do it. After all these are mainly university lecturers – and teaching entrepreneurship is a very different skill. It requires an approach that is different from standard teaching. It has to be experiential – elements like role-playing, virtual businesses and so on are the key. It is not an easy matter. The faculties that are doing it well are really pioneering. So our recommendation is that we need to train our teachers better. Luckily there is a lot of potential for bringing people together from different universities to exchange ideas on how to do this.

Then there is the big problem of lack of incentives for those who choose to get involved in entrepreneurship teaching or helping students to start up. The way teaching staff are hired and promoted does not encourage them to spend much time supporting entrepreneurs. What counts more is the number or the quality of publications a professor makes. There are few credits for professors who get involved in entrepreneurship courses. They do it as an extra, if you like. There are some who do it as a stand-alone course but you often get the feeling they are somehow outside the system. So we think recruitment and career development must be more sensitive to entrepreneurship teaching. The current regulations make that very hard.

And finally, we have identified a problem of evaluation. It is clear there are a lot of new approaches out there. But we have no idea what impact they have, what students are actually learning and what added value there is from being taught entrepreneurship – in short what are people learning that they did not know already or would not have learned elsewhere. We have a general intuition that there is a positive effect from entrepreneurship education – we see people setting up businesses – but we need to know exactly how it is changing things. Therefore we need a thorough process of evaluation. This is very important because the next step is persuading politicians and the powers-that-be that what we are doing is worthwhile and worth investing in. For that we need the evidence of success, allowing money to be directed into programmes which we know work best.

What comes next?

What we’ve learned so far is that universities can be an important source for new, growth-oriented entrepreneurship. Universities are meeting places for people with different backgrounds, talents and risk perceptions. They generate creativity. And it is not just about start-ups but also about shaping entrepreneurial mindsets. Universities are more and more involved in this but there is still a need to understand better how they can help. And the issue of teaching entrepreneurship is not just for universities but also for other levels, in particular vocational training and in-firm training. So we have developed a new project we will be running next year on ‘skills for entrepreneurship’ to examine what entrepreneurship skills really are and how they can be delivered not just in universities but also in other contexts.
What is your assessment of economic development in Eastern Germany?

Eastern Germany is changing into a modern and sustainable business location. Although in terms of economic performance, there is still a considerable gap between the eastern and western parts of Germany, in terms of key indicators such as gross domestic product or productivity, they have clearly converged in recent years. Between 2005 and 2007, the economy in the eastern German Länder developed in a very positive manner. In 2007, there was economic growth of 2.2 percent. In 2008, due to the negative development in the fourth quarter, the growth rate was reduced to 1.1 percent, however the industrial sector showed a significant improvement. If we look at the current figures, Eastern Germany’s industrial value added has thus grown by nearly 55 percent since the year 2000. This is also confirmed by a ranking of German small enterprises with especially high growth rates (“world champions”) published in 2008: Several companies among those with the highest growth rates, including those that rank first and second, are from Eastern Germany.

After several years of positive economic development in the new federal states, the current international economic and financial crisis has become clearly noticeable in Eastern Germany. Yet Eastern Germany is benefiting both from the fact that its industry is dominated by small and medium-sized enterprises and from active labour market policies such as short-time work.

How important is the topic of business start-ups in Eastern Germany?

The promotion of business start-ups is an indispensable element of economic policy. Institutions of higher education are of particular importance in this context because of their potential to generate firms based on innovations and good ideas. And a good sign for Eastern Germany is that in terms of the rate at which new companies are established, East and West Germany have converged.

At the same time, we have to intensify our efforts to provide young people in Eastern Germany with education and training for the labour market, including entrepreneurial skills. According to surveys and forecasts, the need for highly qualified labour (especially university graduates) will continue to increase. In terms of quantity, the new cohorts will hardly be able to replace those retiring from the labour market. Forecasts assume that the number of school leavers will halve in the period between 2000 and 2020. So, good technical and entrepreneurship education for those coming through is critical.

But constraints are already apparent in certain regions and industry sectors, in particular in those parts of manufacturing that are R&D-intensive and look almost exclusively for skilled labour. We know that it is much more difficult for smaller enterprises than for big and well-known companies to recruit personnel, but also that they are key to the future and so better linking education with the needs of future labour markets and the needs of new and small firms is an important task of public policy.

What does Germany do to promote business start-ups from higher education institutions?

For many years, the Federal Government has very successfully applied a financial assistance programme called “Business start-ups originating from academia”. The most recent expansion of the programme took place in 2008. The programme, called EXIST, supports people at higher education institutions and research institutes wanting to start a business during the preparation and realisation of their idea. They are provided with a grant and with non-cash resources in order to enable them to create a business plan and develop their innovative idea for a product or service. A total of 155 new start-up grants were provided in 2008, 71 of them in the new federal states in eastern Germany or in Berlin.

Since the EXIST start-up grant programme has a rather broad target...
group, there is also an EXIST research transfer programme which supports highly technologically sophisticated, research-based spin-off projects entailing extensive, costly and risky development work. Every year, financial assistance is provided to around 25 high tech start-up projects all over Germany; 23 new research transfer projects were approved in 2008, eight in the eastern Länder. Other public support for high-tech start-ups, such as seed financing, is also important to helping overcome difficulties.

Indeed, the development of the start-up culture at higher education institutions and research institutes is progressing. In addition to the on-going projects, another 25 have been included in new rounds of the programme. This means that, in total, we now have 62 ongoing projects of which 16 are located in the new federal states or Berlin. These projects help to establish a range of services used to motivate students and academics, mainly from the departments of technology and natural sciences, to start a business and provide them with the skills they require.

How would you rate LEED’s work on university entrepreneurship in Eastern Germany?

Generally speaking the results are positive. Higher education institutions are very important for economic dynamism and the renewal of regional knowledge bases, particularly in Eastern Germany. The LEED work dealt with some specific issues such as university business start-up potential, consulting capacities and the quality of the links with the region and with industry. In particular it showed that
What is the main focus of your work at the Johns Hopkins University?

My area of research is technology entrepreneurship and innovation. Our programme is entirely focused on the question of how managers can understand technology and innovation as enablers of everything that goes on in the value-creation process. On our programme when we talk of entrepreneurship, we tend to define it more broadly than others do. The way we see it, opening a business of one's own is only one possible component of entrepreneurship. Many of our graduates go on to jobs in Fortune 500 companies – but their perspective is on how the innovation process drives what their companies do and how they, as individuals, contribute to this.

You’ve worked with LEED on the Eastern Germany review. What lessons from your work in the United States are applicable there?

The issue is how to engender or accelerate economic development in a region such as Eastern Germany via the process of entrepreneurship. That’s the goal of the German government and that’s the goal of the work done at the OECD LEED programme. The issue is similar to what we face here in the US – especially in our rural areas. Here we have seen how through technological entrepreneurship, you can create something that can be very easily leveraged. If for example, you have a small company that creates a product that can be sold all over the world – by virtue of the Internet – then you have created a tremendous amount of value-added from a very small economic base. That is the logic behind setting up in rural areas, because you can create a whole ecology around the original act of entrepreneurship. Now in the countryside there may not be too many technically trained people, since those who have such skills will migrate to the cities where the jobs are located. Therefore, the aim of public policy is to kick start a value-creation process that becomes in itself an attractor for services and products. Look at Silicon Valley. It started from virtually nothing. At the beginning it was Hewlett-Packard and nothing else. It was tiny, but then it grew exponentially. It is a bit like a blue whale in the ocean. It is so big it creates its own ecosystem. This is a possible model for Eastern Germany.

So is it a question of Eastern Germany simply following an existing model?

The difficulty in doing this is identifying what could be the so-called ‘magic formula’. Or indeed deciding if such a magic formula even exists. We know some things have to happen for the ecosystem to take off. You need capital, you need risk-takers, technology, the right environment for people to develop technology and then for others to develop business concepts. And you need a way for the entrepreneur to reap the rewards, for example through a stock market for initial public offerings. Alternatively there has to exist the ability for small start-ups to be sold to larger companies that can exploit the markets and technologies they have created. This will spread the money back into the value creating ecosystem so that it is self-sustaining. But what we do not know yet is if there is a standard formula. Policy-makers of course like to think that there is one. In Eastern Germany for example, they are spending a lot of money on creating the networks which are supposed to be part of that formula – networks linking venture capitalists, entrepreneurs, university students and so on. A lot of money is spent on business-plan competitions, on creating incubators and support structures and so on. They are intent on having the right infrastructure. And that is fine. But my feeling is that it is not enough.

So what is lacking?

Eastern Germany’s history and the tradition of strong government support for social programmes mean that the predisposition for taking risks or to starting one’s own business is far smaller than it is in the United States, where the social safety net is set much lower. Here in the United States if you don’t have a job, you have to go out and make one for yourself in order to live. It is as simple as that. So everywhere there is a historical tradition that either mitigates or enhances the entrepreneurial drive. This is a big challenge for Eastern Germany – overcoming dependence on state support. Personally, I believe change will only come generationally. One cannot think in terms of fixing it today. All efforts should be focused today on tomor-
row's generation. Schools and universities need to be targeted. In the meantime, governments should figure out what to do with the displaced workers who do not have the skills needed for the modern economy. But that is a political and a labour issue. On the economic front, it is attitudes that need to change. What we have found is that you can put a lot of money into entrepreneurship support programmes, but if the mindset does not change, then it all becomes little more than another form of social assistance. And I fear this has happened in Eastern Germany. The government there is pumping lots of money into 'entrepreneurship infrastructure.' But what it has created is an industry of people living from grant to grant and not necessarily taking the risks needed to create sustainable new businesses.

You seem to be suggesting that there is not much that can be done in the short-term. The government can take its 'off-the-peg' formula for promoting entrepreneurship but that is unlikely to be enough. And mentalities won’t change immediately either.

No, I am not sure in the short term that much can be done that will dramatically change the immediate situation. In the long term, a systematic effort focused on establishing a culture of creative risk taking will have more positive consequences. Today there is a lot going on in Eastern Germany, but because politicians are focused on quick solutions, since election cycles are very short term, they do not always have the incentives to invest for the long haul. They want proof that what they are doing is working and so they ask for example: how many businesses have we created? Without knowing how many businesses survive past the first three years, that is a meaningless statistic. So it is not just a question of money and programmes. It is also about having a national conversation about why this is so important. The economy in Germany, particularly the south, is surprisingly characterised by small and medium enterprises, which is precisely why it is robust. So it is not as if in the east, they are not exposed to these ideas. The question is how this historic tradition of entrepreneurship in the south can be transferred to the east.

The change has to be systematic, generational and part of the national psyche. There has to be a lot of effort devoted to changing people’s attitudes about the importance of entrepreneurial activity. For example, the universities that focus on training managers and engineers for large companies can augment their programmes to also pay attention to the need for innovation and creativity. Whether in course content, projects or assessments, such a focus on the ‘softer skills’ will send the message that such activities are important. Large companies that support university education could also confer a premium, with additional support, for those programs focused on innovation and creativity. Consequently, what becomes taught in universities will then apply equally well to large and smaller high-growth enterprises.

Can a society pick the people it wants as entrepreneurs and train them for the task?

We cannot predetermine who will be an entrepreneur. What we can do are train people to think in an entrepreneurial way and to expose them to the opportunities if they choose to pursue entrepreneurship. Most graduates will inevitably end up in large corporations but what they should get from their education is the ability to think and act entrepreneurially. I mean by that the ability to think out of the box to solve problems with limited resources. These skills are usable in any capacity. The decision about whether or not to be an entrepreneur is partially about life choices, which you cannot predetermine. Take the examples of Finland, Singapore, Taiwan, Ireland, or Israel. These are countries that seem to display more of a ‘problem solving’ mentality among its managers and general population. Perhaps it’s a small population dynamic. People there will tend to not say to themselves that ‘this problem is too big for me because I don’t have resources’ but instead, ‘given the limited resources that I have how do I figure out a solution.’ It’s an attitude. The interesting thing is that such an attitude already exists in Southern Germany. There are thousands of SMEs making high-end machine tools, consumer goods, industrial products, and so on. That’s what they have always done. So I would say the lesson for Eastern Germany is to think less of replicating Silicon Valley, and more of replicating what’s on their doorstep: the mindset of the German South.
I understand you are very critical of some aspects of current entrepreneurship teaching at universities.

My main interest is in what is left out, what is overlooked in current entrepreneurship teaching. Right now the main focus for government support for transfer of knowledge into entrepreneurship is hi-tech. But there are so many examples showing that innovations are not just hi-tech. They come in all sorts and sizes. You can create a viable business model using ideas that have nothing to do with hi-tech. Of course hi-tech is one source but on its own it is too narrow. The historical principle on which German universities have tended to operate is that they are places where you do not just follow the conventions and prepare for practical life. They should also be places where you question tacit presuppositions. They should be raising difficult questions about the status quo in every respect. Universities are not just centres for research but also for developing and debating new ideas. Questioning conventions is in itself a highly fruitful way of creating new ideas. In universities, people are younger. They are less biased – or at least they have different biases. They are more curious and more critical – and all this makes universities an excellent breeding ground for new ideas.

So what are you saying?

What I am saying is let’s use that! Let’s use the whole spectrum of the universities and not just focus on hi-tech research. In Germany — and other countries too I presume — the focus of government support for entrepreneurship is inextricably bound up with hi-tech. It is all centred on turning research findings into patents and patents into start-ups. Everyone seems to agree that the best thing we can do is teach how to put that process into effect. But the whole thing is much more difficult than people realise. It’s not about the quality of a patent, or how sophisticated a research finding is – but about whether or not it fits into market demands. A patent has to be translated into a promising business model – an entrepreneurial concept “tuning” the patent in with market demands. That’s innovation in Schumpeter’s sense. Hence the crucial point is to create a promising entrepreneurial concept. Patents can be one aspect among others but they certainly are not the only one. Such promising concepts can be distilled from many academic fields or disciplines.

Give me some examples of what you mean?

Well, look at the company I founded 25 years ago – Tea Campaign (www.teekampagne.de). What does it do? It questioned the conventions of the tea trade. We reduced the usual broad spectrum commonly offered in traditional tea shops to one variety only. This enabled us to purchase one large amount instead of many small lots of tea. This strategy allowed us to circumvent all layers of middlemen. At the same time we improved quality by choosing the number one variety in the world, the high-grown Darjeeling tea. It was such a comparatively simple, non hi-tech concept but it revolutionized the tea market in Germany. Meanwhile we are the biggest importer of Darjeeling in the world.

Or take a look at ebuero - a company using TeaCampaign as a model - which is now Germany’s market leader in secretarial services (www.ebuero.de). It’s not hi-tech. It is just a new concept breaking completely with the conventions in this field. These are what I call concept creative models – initiatives based on creative concepts not on hi-tech.

So that’s your first point – look at all types of innovation. What else?

My second point is to use existing components. By components I don’t mean physical parts but entire subsystems. What I mean is that you do not have to do everything yourself. The more you use existing components, the more efficiently and professionally your start-up will operate - from the beginning. For example, use a mail-order logistics business instead of doing the packaging and mailing yourself. So much of your operation can be outsourced and by doing so you have a professional service right from the start, instead of expending all your capital and energy on being professional yourself. Another great advantage is you keep your own brain free to focus on the concept. You can run whole companies like this.

I am involved in another company called RatioDrink ([www.ratiodrink.de](http://www.ratiodrink.de)). We have no office, no book-keeping. All the company does is to coordinate components.

**You are also a business angel?**

I am a business angel to many other start-ups: As a rule we concentrate on the business model, focussing not on the hi-tech element or on how to raise capital – but on the concept. And once we have the concept, then we arrange the components in such a way that we do not need capital. We only pay when we have orders. Very little capital is needed. We do not need to go to banks.

**So the concept is everything?**

Yes, and that is really my third point. Universities should not get bogged down in teaching about business administration. What is necessary is to remove entrepreneurship from this narrow confine and the often close association with business administration, a too narrow paradigm for entrepreneurship. For entrepreneurship, you need a good concept. But in universities the focus is too often not on the concept but on business administration. The support for business founders is built around all the conventional tools – marketing, management and so on. I could give a huge list of what a business founder is supposed to know. It would overwhelm you. My point is that when you use components, you do not need this focus. Business administration certainly is important, but it can be done via teamwork or via outsourcing. All that stuff – the details, the tax issues and so on – all that can be done by other people. So university teaching should focus on concept creation. Instead the stress today is on taking someone who is presumed to have already had his or her great idea and teaching them business processes. I am not saying these things do not matter, but the founder should be able to keep their brain clear for the really important decisions.

**What is your advice for entrepreneurship teachers in universities?**

Let go of the conventions of entrepreneurship education. We should emphasise the concept and liberate teaching from the narrow confines of business administration. We need a Declaration of Independence from business administration. The potential of universities is much broader.

**It seems you want a complete break from the commonly accepted methodology.**

We need to break with convention. Everything that you see in the world is built around convention. It may be a new convention but it is still convention. My philosophy is about focusing on function. For example in my tea company, we had to ask ourselves how to get the tea from the plantation to the customer. Convention said there had to be auctions and importers and a whole infrastructure. We said: It ain’t necessarily so. I did not know a thing about tea, but I could see there was no need for a chain of middlemen. What we needed was a big enough order built around just one variety and with that we went straight to the plantation. It was a very simple idea. So we were thinking about function, just like the Bauhaus movement did. Convention says that historically things function in a certain way but we should focus on how they could function differently. Universities can teach this. At universities people are less narrow-minded; they are not blinded by daily routine. They can easily distinguish function from convention.
How long has the University of Wismar been promoting entrepreneurship?

We started in 2000 with a project called INFEX. It was a very successful project that supported young students interested in setting up their own companies. There were courses in the basics as well as some more advanced material, and we ran competitions. Many of our students were really interested: between 2000 and 2008 there were more than 100 new businesses created in all sorts of different fields such as product design, web design, software development, mechanical engineering and so on. It was a real mixture. But we quickly identified one problem: we were only reaching those students who were already interested in entrepreneurship and business. Thousands of others were not getting any exposure at all. So that is why this year we have started a new project.

And what are the other three ‘pillars’?

The second pillar is directed at those who are really interested in getting into the subject. These students can access a number of extracurricular programmes. The third pillar is entrepreneurship education and empirical research. We believe we have to look into ways of improving scientific research into the best ways of doing entrepreneurship. For this we need both national and international benchmarking, with cooperation from international partners. And the fourth pillar is about the management of the university as a whole. This is the work of the Rector and the authorities. We want to be an entrepreneurial university. Too often you find that entrepreneurship courses are just an isolated part of the university programme. Often there is just one professor teaching a handful of students. We want an approach to entrepreneurship that is both top-down and bottom-up – in other words co-ordinated from on top as well as all-embracing at the workplace. Our vision is of being not just a typical university but an entrepreneurial university. So we have workshops for the teaching staff and we focus on goals, results and future developments.

Why is it so important to speak to all students?

We advertised ourselves to all the student body, but we found we were reaching only five to seven percent of them. The others were not interested, so they got no support. What we want to do is give every student the set of skills to work in industry as an entrepreneur. We find that many students have ideas of their own but it has never occurred to them that they could do things by themselves. Our state is not a very rich one. There is not much in the way of big industry. We need new ideas for development. We need to get the most out of the potential of our students.

What are the main obstacles that you face?

What we have done is not an obvious road to go down, because the way German universities have developed does not help. For most of the post-war period there was a strict separation between the academic and non-academic streams. That is why many on the teaching staff today are concerned that they will be dominated by industry and they are anxious to...
defend their academic freedom. Our task is to involve everyone in developing the new mindset. We have many professors who are extremely favorable. We have many who are indifferent and go along with it. But there are also many who feel that the entrepreneurial university and close cooperation with industry are not in the interests of the academic community. The influence of this body is very strong. And every German university that is re-focussing on entrepreneurship today is facing this same problem.

**What would you say is the key to success in your approach to entrepreneurship teaching?**

What we do is make sure entrepreneurship skills are integrated into our teaching modules. For example, in a course on mechanics we teach project management – it is integrated, inside the course. This is something completely new. Until recently such subjects were taught separately. We want to instil the basic ideas of entrepreneurship via our regular lectures in maths, physics, design and so on. It is possible to do so because the way in which we teach is via projects. In these projects students learn about entrepreneurship techniques. We call it intra-curricular. Then if we can convey to students the feeling that this is something that could interest them, we open them up to deeper studies in extra-curricular courses. That way we hope we’ll end up with more start-ups.

**What are the entrepreneurship skills that you teach?**

Any list would include leadership skills, time-management, team-management, project-management, communication skills and intercultural skills. These things can be taught. For example in mathematics we have a course entitled “Modelling of survival and sustainability”. In this the students do two projects. They have to collect data – for example, environmental data about river pollution. They then have to analyse the data, find a mathematical model for it, find a solution, give a presentation and so on. So in that one course you have team-building, project management, etc. It’s intra-curricular.

**All that must require staff who themselves are trained.**

Indeed. But here we have one big advantage. Around 95 percent of our professors have a minimum of five years previous industrial experience. This is very important and we also do in-house training and workshops. Maybe in the future we will have didactic training because there are special ways for teaching entrepreneurship. You have to do it via a project-oriented, hands-on approach.

**What advice would you give to similar faculties in other universities?**

For me the most important point is simple: do not just work with the people who express the most interest in entrepreneurship. Deal with everyone. Too many people are still coming out of our schools who have never heard of entrepreneurship. But they constitute a vast reservoir of creativity. We have to be able to tap into all of that potential. Our region needs that potential in order to create wealth, make jobs, and to keep people from leaving.
who choose our faculty and decide to follow the full course. On the other hand we also have students from other faculties – like biochemistry or ship construction – who come over and do courses that last one or several semesters. We try not just to convey some economic knowledge, but also to incorporate elements of entrepreneurship education, so that they can use their competences and combine them with entrepreneurial knowledge to start their own business.

**How successful have you been?**

Well it is not really for me to judge. But what I can say is that even though we are the youngest faculty in the university, we are now the biggest in number of students. We are very popular among the student body. Another measure of our success is that we are the only faculty which offers mentor courses for graduates from other faculties. These students know that when people who graduate from our faculty enter the labour market they are almost certain to get a job. That clearly demonstrates the success of the faculty.

**What are the main factors of that success?**

There is one factor that sets us apart from similar faculties in other Polish universities — and that is the staff. We have a young staff that is highly qualified. Another factor is the emphasis we place on cooperation with students and student bodies. We are always open to what they have to say, and we follow their interests. There is a process of evaluation of all our courses so that the opinions of students are monitored and we accommodate their needs. A third element is our work with businesses, notably via the local development agency. We want to get students in touch with real practitioners – so that it is not just theory. It’s a way of exposing them to something that is real.

**How important is entrepreneurship research for your work?**

Very important. We are a partner in a large research programme focussing on Pomeranian enterprises. We use the results of that research to understand the educational and competence needs of existing entrepreneurs and adapt our courses. We believe that if our students want to start their own businesses, they’ll face the same barriers as the entrepreneurs who are currently doing business in our region.

**What are main obstacles you’ve had to overcome?**

We should divide problems into two separate issues. On one side there are the problems involved in supporting entrepreneurship and this is basically a question of money. In the current economic crisis, Polish universities are very definitely feeling the pain. Finding the finances to maintain entrepreneurship programmes is a real headache. The other problem is a more general one in Poland. It is the attitude of staff and authorities to the very idea of entrepreneurship and starting one’s business. These negative attitudes are rooted in the previous system. For example if you are yourself an academic and you want to start your own business, you need the consent of the rector, the main supervisor of the university, and this is sometimes very hard to obtain. Then there are problems about starting businesses based on inventions made in universities. Spin-off creation – this is still problematic. It is a mental blockage and it will take time to overcome. There is also a problem with students. If you look at the sociological research, you can see that people still perceive entrepreneurs to be people who cannot be trusted, people who use others to get rich and so on. Again that is something rooted in the previous system.

Perhaps the situation is improving. This year we had a survey among the first year students. They were asked – do you intend to start your own business? Very impressively, more than half of them said yes, either during their studies, or immediately after, or after some years acquiring experience in the workplace. If you compare those figures with other countries, more than 50 percent is really very large. Of course they are first year students and I don’t seriously think that more than half of them will actually start their own business, but nonetheless it shows how mentalities are changing.

**You call your course the entrepreneurial “vehicle”. What does it consist of?**

One of the most important parts of the vehicle – the wheel if you like – is meetings with business people. We organise these meetings every semester and they are open to all students at the university. We use the meetings to demonstrate to students that being your own boss can be attractive. Often they face a choice of whether to enter the labour market as employees or to be their own boss. The meetings are there to show them the advantages of starting their own business. On our courses we teach them how to plan, how to market, how to do the financial side and so on. But we also want students to see that there are real people out there doing it, and that it is therefore a feasible life choice. The programme has four parts. The first we call ‘Let’s talk business’. This is where we have the meetings with practitioners, entrepreneurs and business-owners. We try to involve students from all faculties. Indeed we are always trying to attract other students to do our masters course. It is a kind of popularisation of entrepreneurship education.
The second part is a competition. Many universities around the world have business plan competitions. We try to make it a bit broader, with four categories: innovation and project development; marketing plans; business plans; and project management. We see it is a way of promoting creativity. It gives students the chance to gain confidence. Business plans are extremely detailed, down-to-earth things. By creating them themselves, students learn that they are do-able. It is all about self-belief.

The third aspect is the small business speciality, with training in SME and start-up issues. This is delivered essentially in English. We use our contacts with Erasmus students to give it an international identity and we try to build mixed teams of Polish and international students in order to broaden perspectives.

And the last element is the link-up I mentioned with the Pomeranian Economic Observatory. Every two years there is a new publication of our research – we are working on the next one due to come out in 2010. In it, we gather data about the needs of entrepreneurs in our region. That way we learn how we can improve our education system so that graduates who start their own businesses can avoid some of the problems that have so far been endemic.
What is your set-up at the Technical University?

I am Head of Entrepreneurship Services, which has a team of 14 people. We work on motivation, supporting entrepreneurship, putting people in touch with support networks, finding premises and so on. We are part of one of the biggest technical universities in Germany, with 28,000 students. The entrepreneurship part goes back 25 years, when we started one of the first business incubators in Germany and it has since developed in successive waves. The most recent development was in 2004 when we started with the Entrepreneurship Centre. At the Halle seminar I set out some of our ideas, especially the emphasis we place on relations with alumni.

So your former students play an important role?

Exactly. We looked at what our start-ups need to ensure they get off on a good footing and we decided that the best thing is for them to have two mentors. On the one hand we offer a mentor from a scientific faculty – someone who is expert on the technical questions and can offer advice on that front. And on the other hand, we put the young entrepreneurs in touch with someone who has already started their own enterprise – in other words someone with business experience. What we do is try to find a business mentor who is in the same field of technology as the start-up. The business mentor can provide knowledge on a whole range of issues: how to get money, how to build up networks, how to go to market and so on.

And these mentors are alumni. How do you locate them?

We have a huge alumni programme at the Technical University (TU). There is a database with the names of people who have been at TU and gone on to found an enterprise. So this is a great network and all we have to do is get in touch with them to ask for their help. We offer a list of different activities which alumni can pursue as a way of offering their services.

How does it work?

First we set up a meeting between the student-entrepreneur and the alumnus. The first thing is to see if they get on. After that it is really out of our hands. We only started this programme a year ago, so it is impossible to know just yet how well it is working. Another thing we do is try to create the conditions for alumni to meet start-ups. For instance we have an annual event called Alumni Angel Abend (Alumnus angel evening). We ask five of our top start-ups to make a pitch before the invited alumni, who then have a chance to ask questions. Then they sit down to dinner, with the tables arranged according to different technical fields like biotechnology or car technology. The professors are also there. So it is a great way to create exchanges and the alumni are themselves very interested, because they are after all in the world of innovation. They are also looking for new ideas and people and this is one of the places where they can perhaps get them. We have also had other ideas to get the message out that we are nurturing entrepreneurship. For example, an exhibition of some of our success stories and a catalogue containing entrepreneur profiles.

When will you be able to assess the success of your strategy?

It is still too early, but we have been questioning our alumni companies every two years since 2001. More than 400 have answered and of them, 75 percent say they would like to give knowledge or know-how or money back to the university. So we know they are willing to support us but the process is only just beginning and we’ll need a couple more years before we can evaluate it properly. But already we can get a feeling of how important it is. Before, the alumni founders had no idea how to engage with us. Now they can come and give talks, or offer placements or get taken on as mentors.

So there are different ways in which alumni can get involved?

We offer them a list of possible activities. They can take part in lectures. Or they can get involved in our summer course. Or they can come and talk informally to students. Students
here are not so clued up on entrepreneurship, especially students in the technical and natural sciences. If you invite them to a lecture on it, they are sceptical. But if you have an ex-student who comes with some super new machine, it’s an excellent way of exposing them to the idea of starting their own business. And this is what we want. Many of our students still think the ideal is to join a big company like Siemens. So the alumni can act as ambassadors. We want them to be role-models for the student body. That’s the way we promote them – like with the exhibition and the brochure. We also have a Google map showing all the sites near TU where alumni have created companies. That way, students can see the scale of alumni entrepreneurship. We also offer alumni a chance to do their recruiting at TU. They have access to a database at the university to put up job offers. But the university has to invest in this. The methods for keeping in touch – constructing databases, keeping up the network – all requires staff and money.

**So where do your funds come from, the University?**

Only a small part. Right now our money is third-party money – it comes from the government – but the day will come when it runs out. So we need to develop a structure of sponsorship, and we need to be professional about it. We want to sell to our alumnus companies the notion that entrepreneurship is good for the economy and society and that young companies need help in their early phases to find financing and premises and so on. So it is in their interest to sponsor us.

You participated in the OECD LEED project. What did you gain from it?

Our involvement in the OECD LEED project really showed us the meta-level of our work, something that is easily lost in the day-to-day work. We got insights from how university entrepreneurship support works elsewhere in Europe and the USA. The discussions with the members of the review team signalled potential opportunities, in particular on how to mobilise and activate students and would-be-entrepreneurs. Another result of the project was increased communication with policy makers in Berlin. We were able to expose our challenges to the responsible government organisation, in our case the Senate Administration. Thanks very much to LEED for the possibility to participate.

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**SMEs, Entrepreneurship and Innovation**

*By Pier Carlo Padoan, OECD Deputy Secretary General, in charge of the OECD Innovation Strategy*

Creativity in SMEs is critical to a new growth paradigm where innovation is not driven simply by basic scientific research but by a process of collaboration among many players. Our economies and policies have to adjust to enable this new creativity and innovation to emerge through renewed entrepreneurial culture, new skills for entrepreneurship and support for spin-offs.

The OECD is helping governments make this transition by developing an Innovation Strategy to design more effective innovation policies that will strengthen productivity and long term growth, as well as meeting global challenges such as climate change. We are looking at the traditional and the new foundations of the innovation process: human capital, entrepreneurship, the role of universities and research institutions, knowledge markets and infrastructures. This effort will result in a comprehensive strategy to be delivered to Ministers in 2010 and which will include a set of policy principles that will harness innovation in the 21st century.

As part of this exercise, the OECD Centre for Entrepreneurship, SMEs and Local Development (CFE) is preparing a flagship publication on SMEs, *Entrepreneurship and Innovation*. The book, to be published early in 2010, will analyse the role of new entrepreneurial ventures and SMEs in innovation. It will also examine how national and local governments and development agencies can boost innovation by improving the environment for entrepreneurship and increasing the capabilities of new and small firms to innovate, understanding the factors driving it forward - or holding it back - and the implications for policy.

The book will include a set of internationally comparable data on SMEs,
entrepreneurship and innovation and a review of major policies and new policy developments in this field in each country examined. Through three thematic chapters, three novel, but critical, aspects of policies for SME innovation and innovative entrepreneurship will be examined: the place of new and small firms in global and local knowledge flows and the policy actions to support them; the need for education and training systems to better foster the growth of the human capital for entrepreneurship and small firm innovation, including through the formulation and teaching of entrepreneurship skills; and, the importance of social enterprises to foster social innovation and the need for an evolution in the institutional frameworks to facilitate their contribution.

**Further reading:**

**Higher Education and Entrepreneurship**

Stimulating innovative and growth-oriented entrepreneurship is a key economic and societal challenge to which universities and colleges have much to contribute. This book examines the role that higher education institutions are currently playing through teaching entrepreneurship and transferring knowledge and innovation to enterprises and discusses how they should develop this role in the future. The key issues, approaches and trends are analysed and compared across a range of countries, from the experiences of the most entrepreneurial universities in North America to advanced European models and emerging practices in Central and Eastern Europe.

It is clear that entrepreneurship engagement is a rapidly expanding and evolving aspect of higher education that requires proper support and development. The book stresses the need to expand existing entrepreneurship efforts and introduce more creative and effective approaches, building on the best practices highlighted from around the world. It will provide inspiration for those in higher education seeking to expand and improve their entrepreneurship teaching and knowledge-transfer activities, and for policy makers who wish to provide appropriate support initiatives and frameworks.

**Clusters, Innovation and Entrepreneurship:**

This publication explores the success of major innovation and entrepreneurship clusters in OECD countries, the challenges they now face in sustaining their positions and the lessons for other places seeking to build successful clusters. What are the key factors for cluster success? What problems are emerging on the horizon? Which is the appropriate role of the public sector in supporting the expansion of clusters and overcoming the obstacles?

The book addresses these and other issues, analysing seven internationally reputed clusters in depth: Grenoble in France, Vienna in Austria, Waterloo in Canada, Dunedin in New Zealand, Medicon Valley in Scandinavia, Oxfordshire in the United Kingdom, and Madison, Wisconsin, in the United States. For each cluster, it looks at the factors that have contributed to its growth, the impact of the cluster on local entrepreneurship performance, and the challenges faced for further expansion. It also puts forward a set of policy recommendations geared to the broader context of cluster development.

This publication is essential reading for policy makers, practitioners and academics wishing to obtain good practices in cluster development and guidance on how to enhance the economic impact of clusters.