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Dear Reader,

a warm welcome and thank you for your time and interest in our fourth edition of ENRICH Monthly.

In this edition, everything revolves around the topic about how important innovation is for the national growth and the future of the national and global economy.

Lately, the acting president of CNI, Paulo Afonso Ferreira, said at an event that happened in São Paulo last week: 'Global experience shows that there is no sustainable economic growth without the creative use of knowledge'.

The recently published study by CNI in cooperating with UFRJ and UNICAMP confirmed, that never before have so many countries prioritized science, technology, and innovation as today – considering it as a response to more intense international competition based on countries implementing strategies to promote productive and innovative ecosystems. This shows, that countries have recognized the high impact and value of innovation to boost the national economical system.

Taking into account the explanations of the European Central Bank, simply put, innovation can lead to higher productivity, meaning that the same input generates a greater output. As productivity rises, more goods and services are produced – in other words, the economy grows.

We hope you enjoy reading the 'ENRICH Monthly' and we are happy to receive your feedback via <u>email</u>!

All the best for you, ENRICH in Brazil Team



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The German Foreign Minister aims to Boost Ties With Brazil

Brasilia, April 30 – During the four-day trip to Latin America, the German Foreign Minister Heiko Maas spent two days in Brazil calling for cooperation based on values. This is the first visit of a German cabinet member to Brazil since Jair Bolsonaro was inaugurated as the President of Brazil early this year. Germany and Brazil have enjoyed a strategic partnership for more than ten years. The German Foreign Minister is also keen to ensure that this partnership is always based on shared values.

Speaking in Salvador da Bahia on Monday, Mass brought attention to the current political environment of many countries. "Populism and nationalism are on the march globally, and achievements made over decades are no longer discussed, but rather even questioned to some extent," he said. On Tuesday, he met with Foreign Minister Ernesto Araujo and then President Bolsonaro. Meetings between the three covered a range of topics after which Maas said, "We are open to dialog and to further developing of our relationship." He did note, however, that such dialog would have to be based on a shared understanding of democracy, freedom, human rights, and the rule of law. Maas announced that he had spoken openly to Bolsonaro about the tone of the dialog as well, notably, that there could be no further "irritations" in the future — a sentiment Maas said the president shared.

Heiko Maas also met with German business leaders in Sao Paolo during his trip in order to get their perspective on the Bolsonaro administration. Some 1,000 German businesses operate in Brazil, and another 600 are German-Brazilian partnerships responsible for 243,000 jobs and 12% of Brazilian GDP.

Read more at: Federal Foreign Office, Deutsche Welle

Hungary and Brazil to Start Bilateral Ties in Many Areas

Budapest, April 17 – Hungary will devote greater attention to Brazil and bring its foreign policy and economic relations with the country on new levels, Hungarian Minister of Foreign Affairs and Trade Peter Szijjarto said after talks with Brazilian congressman Eduardo Bolsonaro, the son of Brazil President Jair Bolsonaro, in Budapest on Wednesday.

As Szijjarto told a press conference, the area of bilateral cooperation include farming technology, water management and health industry. The minister noted that the bilateral turnover is continuously on the rise and Hungarian government set up a 415 Million euro (about 467 million U.S. dollars) credit line with Hungary's Eximbank to support partnerships between Hungarian and Brazilian companies.

The two countries also agreed to reinforce their research ties and Hungary to increase the number of scholarships offered to Brazilian students, Szijjarto said. Currently, Hungary provides 250 scholarships per year to Brazilian students.

The countries would elevate their joint economic committees to ministerial level and launch a-year-long Hungarian cultural programme in Brazil, the Head of Parliament's Foreign Affairs Committee Zsolt Németh, told reporters, after talks with Eduardo Bolsonaro. Regarding Venezuela, he added that Hungary has recognized Juan Guiado as the country's President.

Szijjártó said Hungary and Brazil shared values on key political and strategic issues exemplifying migration as one such issue. In last December, both countries refused to adopt the United Nation's global migration pact, implying that they reserve the right to decide for themselves whom they allow into their territories, as the minister noted.



Read more at: Daily News Hungary, Hungary Today





Scientists Accuse European Commission of Contributing to Deforestation in Brazil

A coalition of more than 600 scientists in the EU, and 300 Brazilian indigenous groups have accused the European Commission of contributing to widespread deforestation in Brazil, which is exacerbating climate change and fuelling human rights violations. In an open letter, backed by scientific evidence, it underlines the urgent need to make environmental impacts and human rights breaches a priority in ongoing trade negotiations between the EU and Brazil.

The scale of international agricultural demand – notably for beef and soya – is driving deforestation and putting the Amazon's future at risk, it states. "The task of ensuring sustainable trade has become an urgent one with Brazil's new administration working to dismantle their environmental and indigenous lands policies," it adds. The leading research journal <u>Science</u> has taken the unusual step of endorsing the letter and publishing it in full in its latest issue.

Ongoing land conversion in Brazil has already been linked to violent indigenous rights conflicts, it notes, while deforestation releases vast amounts of CO2 "contributing to global climate breakdown. And a multitude of endangered species are at risk under continued clearance of native vegetation". The coalition claims the EU "is a world leader in importing crops that cause deforestation", resulting in forest loss equivalent to the size of Portugal between 1990 and 2008. Despite the global importance of Brazil's natural areas, the EU imported more than €2 billion worth of livestock feed from Brazil in 2017, not knowing its provenance, it says. "One-sixth of the carbon footprint of EU diets are directly linked to tropical deforestation though consumers have no way of knowing whether the food they eat has contributed to deforestation and loss of land for indigenous people."

Read more at: Irish Times, EU Brazil Trade

Mercosur-EU Agreement "very close to a conclusion", says Brazilian Foreign Minister

Brasília, April 29 – Brazilian Foreign Minister Ernesto Araújo said on Thursday that the trade agreement between Mercosur and the European Union is finally nearing completion after 20 years of troubled negotiations between the blocs.

The aim of these negotiations is to make a free trade deal and strengthen economic ties between the region and the European Union. Among other issues, the EU-Mercosur Association Agreement will cover: trade of goods and services, investment, intellectual property rights, government procurement and trade barriers. It's also hoped that it will improve geopolitical relations between the two. And, campaigners also hope that it could lead to improvements in environmental policies.

According to <u>Reuters</u>, Brazil's Foreign Trade Secretary Lucas Ferraz told Bloomberg that the trade agreement has never been so close and added that France, which has always defended its farmers, is no longer blocking sensitive concessions in the agricultural sector to open the EU's borders to South American products. In his opinion, it is Brazil that must complete the technical work in order to move forward.

In recent years, the Brazilian government has softened many of its environmental protection laws for economic reasons, and also due to increased demand for products globally. Because of this, deforestation in the Amazon rainforest is still happening at a fast pace and is showing no signs of slowing down. According to the European Commission, the production of raw materials, including beef, palm oil, coffee, cacao, and soya, is, in some cases, indirectly linked to deforestation. This, along with the impact the agricultural sector has on the Brazilian economy, means that the development of sustainable supply chains is essential. The Commission is currently working on an action plan to make sure that its trade policies don't lead to deforestation. This plan will be announced in the coming weeks.

Read more at: <u>EU Policies</u>, <u>Valor</u> (in Portuguese)





Spanish El Ciruelo Buys Labrunier Grapes Producer



Spain's El Ciruelo bought 100% of Labrunier, a leading producer, sales and exporter of table grapes in Brazil, which belonged to the JD Group. The operation includes Bravis, the commercial arm of Labrunier, with subsidiaries in the country and in the Netherlands. The acquisition price was not disclosed.

According to market information, buying and selling transactions in the sector are evaluated globally from four to six times the annual Ebitda, and the Ebitda margin of the segment is around 15% to 20%. With 2,422 hectares, the Labrunier plantations are located in the São Francisco Valley, in Bahia and in Pernambuco. The company has one of the largest experimental areas in the world for developing grape varieties. Of the total produced, 60% is sold in the domestic market, and 40% is directed to export.

Duff & Phelps is financial advisor to the operation, representing the Brazilian family who owned Labrunier, while Garrigues advised buyers. The operation is subject to approvals from regulatory agencies in Brazil, the Netherlands and Spain. According to the executive director of Duff & Phelps, Alexandre Pierantoni. with the transaction, the Spanish company will have access to "fresh produce and harvests throughout the year."

Read more at: <u>Valor</u> (in Portuguese)

State Government Receives Members of the International Program on Urban Cooperation

On Monday, May 13th, the Government of the State of Paraná received the members of the International Program of Urban Cooperation (IUC) in Valencia, Spain. The program aims to enable cities and regions to connect and share solutions to common problems.

During the meeting an agreement was signed between the Valencian Institute of Business Competitiveness, Paraná Development Agency and the Association of Brazilian Information Technology Companies of Paraná to enable the implementation of the RIS3 methodology.

Widely used in the European Union's regional development policies, the methodology brings together important tools that are based on knowledge and innovation to promote structural changes in regional economies. In Paraná. the methodology will be implemented in the Information and Communication Technology (ICT) sector.

Governor Carlos Massa Ratinho Junior was represented by Secretary of Planning and Structural Projects, Valdemar Bernardo Jorge, who spoke on the importance of integration and cooperation. "Paraná wants to be the most modern and innovative state in the country and with cooperation and integration we will bring new ideas to benefit the population."

According to the technical manager of Paraná Development Agency Jean Alberini the agreement is the realization of a project that arose during a technical visit in the state of Valencia. "We are very optimistic with the fruits of this partnership, collaborating with regional development and technical issues to improve the exchange of companies."

The Superintendent of Science, Technology and Higher Education Aldo Nelson Bona highlighted the characteristics of the state system of higher education of Paraná and the importance of research for the development of the state. "We are a reference for our capillarity and ability to develop research, extension activities and training of personnel that meets the regional demands. The agreement will further advance this issue. "

This is the third project carried out with European collaboration. The technical teams of the program and the European Commission selected the Valencia region for the development of the project with Paraná considering the convergence in areas of interest and also the similarity of the process of economic development between the Spanish and the Paraná region.

Read more at: Assespro PR



Forum: The Importance of Innovation in the Digital Economy

The forum 'The Importance of Innovation in the Digital Economy' (A Importância da Inovação na Economia Digital), promoted by VEJA and Exama took place in São Paulo on May, 16. International experts were invited and highlighted the importance of innovation for the Brazilian and international economy.

According to Ben Ross Schneider, a researcher at the Massachusetts Institute of Technology (MIT), the scenario of innovation in the Brazilian economy is positive and superior to other countries in Latin America, but has room for further improvements.

He pointed out that Brazil has to consolidate the "triple helix", a constructive partnership between the government, the private sector and universities. Schneider is concerned about the low 11% of companies considered innovative that have programs of cooperation with educational institutions. "There is mutual mistrust," he said.

For Schneider, Brazil has a large number of institutions and agencies responsible for promoting innovation. This causes, he says, conflicting policies and ends up delaying the success of the projects. The suggestion is the "institutional euthanasia" of some organizations for the strengthening of those that bring the best results. Besides that, a panel discussion took place in the forum on how R&D institutions are stimulating the national innovation ecosystem. Rafael Lucchesi, the general director general of Senai, Holger Kohl, deputy director of the Fraunhofer Institute for Production Systems and Design Technology (IPK), Germany and Heidi Bridger, the head of the UK's Catapult Network were taking part.

The second debate was focused on governmental incentives to science and technology institutions. Carlos Pacheco (FAPESP) Laurens Steen (TNO, the Netherlands), Martin Sanne (CSIR, South Africa) and Jorge Guimarães (Embrapii) were participating.

At the opening of the forum, the acting president of CNI, Paulo Afonso Ferreira, stressed the importance of promoting innovation for the national industry: "Global experience shows that there is no sustainable economic growth without the creative use of knowledge," he argued. "Either we enter into a cycle of innovation or we will become viewers of the development of the world."

Read more at: VEJA



"Global experience shows that there is no sustainable economic growth without the creative use of knowledge" (Paulo Afonso Ferreira, President of CNI)



Building the Future of Brazilian Industry: *report by CNI in cooperation with UFRJ and UNICAMP about the Brazilian industry and disruptive technologies*

Never before have so many countries prioritized science, technology, and innovation as today. As a response to more intense international competition based on innovation, technology clusters emerging with disruptive power, and countries implementing strategies to promote productive and innovative ecosystems, the National Confederation of Industry (CNI) initiated a project called "Industry 2027: risks and opportunities for Brazil in the face of disruptive innovations" and has published its final report recently.

The aim of the project was to: (i) identifying trends and evaluating the impacts of disruptive technologies on major production systems over a five- to ten-year horizon; (ii) evaluating the capacity of Brazilian industry to deflect risks and seize opportunities afforded by disruptive innovations; and (iii) developing recommendations for the strategic planning of companies and inputs for public policy making.

The study was focused on technology clusters and production systems with sectoral foci. The technologies that were studied were defined based on their potential disruptive impact and organized into eight technology clusters based on the similarity of their technical bases. Industry was stratified into ten production systems and 14 specific sectoral foci selected according to the economic importance of the activities in question for the country's industrial matrix and to the potential impact of innovations on each of them.

During a 14-month period, from March 2017 to May 2018, a team of 75 experts of recognized competence in technologies, industrial sectors, and innovation policy was mobilized in Brazil and abroad to contribute

in one of the stages of the Industry 2027 project. Representatives from approximately 750 companies were consulted in a field survey about the current stage and prospects of digitization in their companies.

The Industry 2027 project was implemented in three sequential steps: prospective study of technology clusters; analysis of production systems and their sectoral focus and conduction of the field survey; and definition of implications for public policies and entrepreneurial strategies. The results were compiled into two summarized volumes, one of an analytical and diagnostic character and a second one of a propositional nature.

The full report can be downloaded at: CNI

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Public and private spending on research and development (R&D) is in 2015 estimated at: 2.76%, 2.06% and 2.07% of GDP in the USA, China and EU respectively.



What it is Like Being an Entrepreneur in Brazil?

In its latest study about Brazil, consultancy firm McKinsey defined Brazil as a "country of entrepreneurs in the broader definition of the word," after data showed that make up 39 percent of the Brazilian workforce. However, it doesn't mean that Latin America's largest economy provides a friendly environment for people starting their own businesses. From the high burden of bureaucracy to elevated taxes, several factors contribute the low survival rate of new businesses.

According to the data, released by the Brazil Digital Report, two-thirds of Brazilian companies close before their fifth birthday. The top reasons being the lack of clients, lack of capital, and lack of knowledge. Part of it may be explained by the kind of entrepreneurship the Brazilian economy fosters. With unemployment reaching 13.1 million people in the wake of the country's worst recession, plenty of Brazilians have to find ways to survive—the so-called "entrepreneurship by necessity."

Data from Serasa Experian, a credit bureau, shows that Brazil created 2.5 million new companies in 2018, a record. But 81.4 percent of them were individual entrepreneurs, people who sometimes open up a small business to issue the fiscal receipts required by bigger companies or to have cheaper access to social security.

McKinsey shows that the most common activities for Brazilian companies are related to low added-value services activities, such as restaurants, apparel, and catering. It could be explained by "the low level of investment required (...) and also because it does not require lots of knowledge about business operations, because they almost always come from a hobby or previous job," explained Enio Pinto, a relationship manager at Sebrae, a Brazilian non-profit private organization that supports entrepreneurs. According to the McKinsey report, "the typical Brazilian entrepreneur is female, under 34, lower-middle-class and with a high school education at best." In fact, only 7 percent of Brazilian entrepreneurs have a bachelor's degree or more, and only 3 percent earn more than 4 times the minimum wage (which is nearly BRL 1 thousand each). The lack of preparation and the ailing economy may help to explain another observation: last year, 5.3 million small companies were defaulting on credit, the second-largest number on record. "These are people who have some kind of ability and they need to have an income, but sometimes are not fully prepared for financial management duties, which leads them to default," says Victor Loyola, Vice President for Micro, Medium-sized, and Small Companies at Serasa Experian.

Brazilian bureaucracy does very little to help. Even if the entrepreneur wants to close the company, they will face costs 44 percent higher than what was necessary to open up the business in the first place, says McKinsey.

Sebrae research found out that, among small companies that close in Brazil, there is a higher proportion of owners who opened up the business after they lost their jobs, had little experience in the area and less time to plan. Also, Sebrae realized they invested less, did not control expenses and revenues, nor did they perfect their products and services.

What is Brazil doing to improve?

Elected under a liberal and market-friendly approach, President Jair Bolsonaro intends to put Brazil among the 50 best countries to do business in four years (instead of the current 109th place in the World Bank ranking)—by slashing and simplifying taxes, signing more trade deals, reducing the size of the state and bureaucracy. But to do it, the administration needs to approve the pension reform bill first, otherwise, it can't give up on revenues.

So far, the government managed to pass the so-called "good payers' list" in Congress, an inheritance from the previous Michel Temer administration. It will allow financial institutions to reduce their risks when granting credit and, in theory, lower their interest rates. Privacy advocates, however, oppose the fact that people may be included on the list without consent, as we explained on the March 14 issue of our Daily Briefing newsletter.



Serasa Experian estimates that 2.5 million small companies may have access to credit due to the project, possibly injecting BRL 180 billion in the economy.

Entrepreneurs against all odds

Despite a hostile environment, startups are thriving in Brazil. According to McKinsey, Brazil already has over 10,000 startups and eight "unicorns," which are startups with a market value higher than USD 1 billion. Among them, fintechs such as Pagseguro or Stone, and education company Arco Educação, are listed on the Nasdaq.

And there is room to grow. The report shows that most startups are "less than two years old, have fewer than six employees and have no revenue." The Brazilian startup ecosystem is also quite concentrated in just nine states.

Most of these companies are also focusing on highgrowth segments, solving problems where the country lacks structure or better competition: 16.2 percent work in professional services, 11 percent on telecommunications, 8.8 are fintechs. Healthcare, education, retail, and mobility also have expressive shares—and some of Brazil's most promising fintechs, like iFood (a food delivery app) and 99 (a ride-sharing app) are growing on these fields.

But besides the common obstacles for companies, fintechs have to deal with specific issues, such as the lack of a specialized workforce. In Brazil, there are only 2 million graduates in STEM (Science, Tech, Mathematics, and Engineering) careers, while in India there are 22.7 million. The field is also little diverse; only 35 percent of startup founders are women. When it comes to the teams, the gap is even worse: a mere 12 percent are female.

For Mr. Pinto, a possible reason for the phenomenon is the "larger male presence in professional training to work in Engineering and Computer Science. These professionals frequently open businesses as a result of their professional occupation."

The labor force is probably a bottleneck for another major challenge: how to obtain revenue and funding. As we explained in our Daily Briefing newsletter on April 12, the lack of specialized personnel has kept venture capital firms, such as Sequoia Capital, wary of investing in Brazilian startups:

"Brazil has about 170,000 new graduates in STEM careers (science, technology, engineering, and mathematics) every year. In the U.S.—which is no benchmark country—there are 600,000, while China has 6m. So we may invest in Brazil, but having a local team could be too much of a headache", said Doug Leone, a Sequoia partner, during the Brazil at Silicon Valley conference.

But it seems that, despite all challenges, startup funding may be flourishing as an opportunity for investors in the country. Although 76 percent of startup funding still comes from family and friends, angel investments are already in second place, reaching BRL 984 million in 2017.

Read more at: The Brazilian Report







How Brazil Became the new Hotspot for Fintechs

Brazil's banking system is known for its distortions: a large concentration that paves the way for huge spreads, higher fees, and poor services for customers. An environment where big players have so much power does not seem particularly welcoming for new companies, but fintechs have been able to benefit from the blind spots left by market leaders to become one of the largest startup segments in Brazil—and new regulations are set to boost it even further.

Data provided by the Fintech Mining Report 2019, elaborated by the intelligence unit of innovation company Distrito, estimates that in just three years, an average of almost seven new fintechs opened every month in Brazil, with the sector amounting to 550 companies as of May 2019. According to Brazil's Startups Association (ABStartups), the financial services segment takes up nearly 4 percent of Brazil's 12,106 startups, making it the third largest sector.

But the companies' ability to provide amenities big banks cannot is not the only explanation for the rise. According to Gustavo Gierun, Distrito's co-founder, a mix of available funding, the search for more efficient alternatives amid the economic recession and properly-applied regulation has provided fertile soil for these companies to develop in the country.

Read more at: The Brazilian Report



Active Biocatalysts at Extreme Temperatures



by João Pedro V. Ribeiro, Confederação Nacional da Indústria (CNI)

Brasília. Based on an interview with Dr. Carolina Andrade for ENRICH in Brazil.

The ENRICH in Brazil interview series for ENRICH Monthly continues with Dr. Carolina Andrade, a Brazilian scientist and director of the SENAI Innovation Institute (Instituto Senai de Inovação) for Biomass, located in Três Lagoas in the state of Mato Grosso do Sul. The purpose of this interview series is to share stories of people and organizations that have established successful scientific and technological cooperation between Europe and Brazil.

Dr. Carolina Andrade is a biologist who has gained experience of cooperation between Europe and Brazil through her doctorate in biotechnology in Hamburg, Germany. The interviewee has in-depth knowledge in the area of enzymes and the bioprocess for the production of biological catalysts.

The doctoral experience of the interviewee was carried out in partnership with Novo Nordisk, one of the largest enzyme producing company in the world. Supported as scholar by the German government between 1992 and 1996, Dr. Carolina Andrade focused her research on the production of xylanolytic and amylolysis enzymes, a group of archaebacterial microorganisms that grow under extreme conditions at temperatures above 100 degrees Celsius.

Dr. Carolina Andrade emphasized the special characteristic of the German innovation system and its feasibility of fast and productive work by partnering with the industrial sector; something that was not common at that time in Brazil.

Germany's academic appreciation provided greater quality in the results acquired in the workplace and in the generation of technology throughout her doctorate.

The experience in general was beneficial to Dr. Carolina Andrade as it has strengthened relations with European partners. She even had the opportunity to return to Germany as a Brazilian representative at an engineering congress.

Although by looking back, the time in Germany was a great experience for her, she faced some difficulties throughout her project. Besides cultural issues, the interviewee have had difficulties in transferring the project to Brazil. The Brazilian innovation ecosystem was not favorable to the complexity of the study she developed in her doctorate degree. Therefore, it was necessary to adapt the study to the local conditions to be able to carry out its applications in Brazil.

For those, who are interested in going abroad and in partnering up with Europe, Dr. Carolina Andrade has the following tips and advices:

1. Learn the local language.

2. Interact and experience the local culture to have a complete experience abroad. Do not use the period abroad only for the technical point of view.

3. Use the opportunity to create and improve your network with partners from other countries and regions.

We thank Dr. Carolina Andrade very much for her valuable insights and being an "Ambassador" for increasing scientific and technological cooperation between Europe-Brazil.

