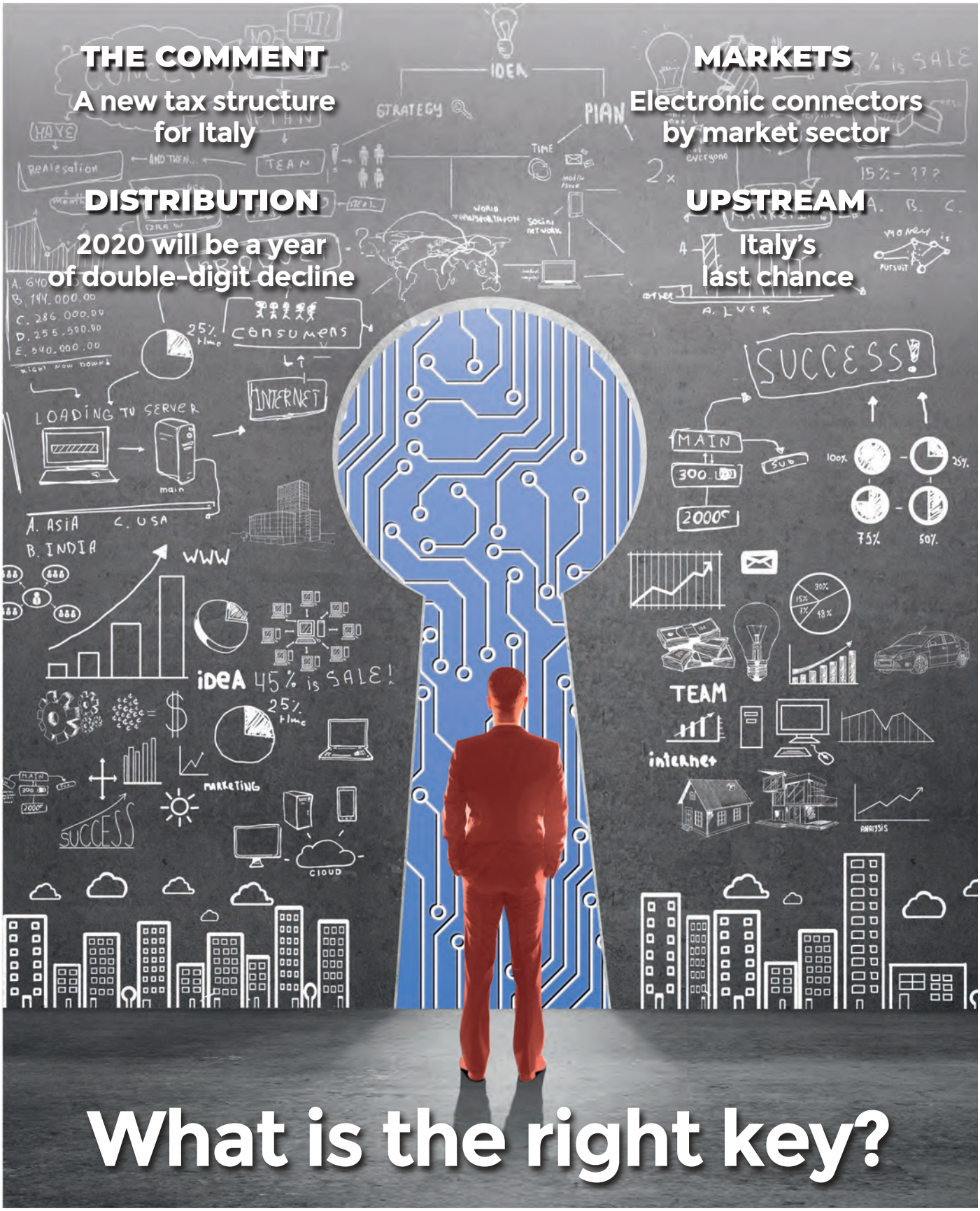
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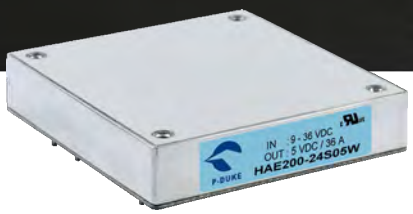
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by Fritz Walter

"As good as it gets"

We are not wrong: it is now as good as it gets! We could even say "It is better than it may get!". The outlook for 2020 has undoubtedly changed. Whereas at the beginning of the year we expected a slight growth after 2019, which was definitely not an exciting year, Covid-19 has led everyone to downtune the expectations for this leap year. And it could not be otherwise, considering that even according to Istat *(Italian National Institute of Statistics)*, in the second quarter of 2020 Italian GDP fell by 12.8% compared to the previous first quarter (- 4.7% which already put people on alert) and by as much as 17.7% compared to the second quarter of 2019. It is also true that the sentiment in September (and it is a sentiment we are talking about, not official data) has led many, perhaps not all, to see the glass half full: it could have been an *"electro-Waterloo"* debacle, however, all things considered both component distributors and the entire industrial electronics sector have begun to look optimistically to next year, confident that Coronavirus will only have been a unique and unpleasant chapter.

It is now as good as it gets! Just look at figures on the pandemic coming from all over the world. Between March and April Italy appeared in the first positions, if not first, of all rankings (for contagions, deaths and hospitalizations). And Italy was the first country in Europe to implement severe lockdown measures and a very stringent approach after reopening: face masks, sanitizers, social distancing, desks with wheels and, if I may say that, sense of responsibility, have led Prime Minister Conte to rightly describe Italy as a nation that "is expected to be reconstructed more than other countries provided it is constantly supervised. We can now work to revitalize the country". And figures on new contagions are proving him and Italians right.



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It is now as good as it gets! We realized it on 4th September when we finished working on the magazine and received the official communication that Munich Electronica trade fair, international kermesse of electronics, would become a "virtual" event for this year. A big sacrifice for Die Mannschaft of trade fairs. This is clear when reading an article I wrote: in the first editorial of this "new" Elettronica AV magazine, I scolded Nuremberg trade fair for deciding to hold Embedded World event in spite of all signs of contagion at a global level. Munich Electronica has adapted to the current scenario and Elettronica AV as well: we were looking forward to the Bavarian event to officially launching our magazine and its abstract in English, but here we are carrying on with our electronic promotional campaign and 1to1 meetings. We are confident that this investment will pay off in the long term. One cannot only live on digital!



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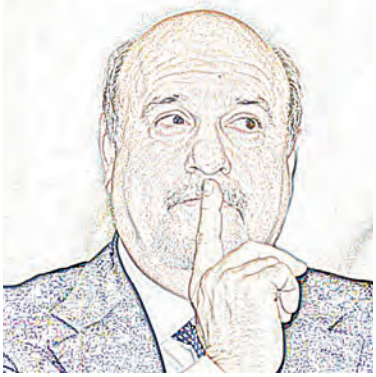
by Alan Friedman

An auspicious Autumn awaits us

For many people the year 2020 is looking like a year we will not want to remember; it is a year of shock and suffering for much of the world - a lethal mix of a global pandemic and global recession. It is a year we would be happy to shelve away, if only it were that simple. The effects of the Covid era will instead continue for some time to change our lives, to alter our consumer habits, to change the way we work and do business and learn and interact socially. We are still travelling across the paradigm shift, we are still inside the period of change, and so it is too early to say what the "New Normal" will look like.

What is clear is that the health of the world economy will depend on the health of the world population, and much will depend on whether we are able to avoid dangerous "second wave" moments across Europe, and in the United States and elsewhere. And much of that depends on responsible leadership. It is not a coincidence that when it comes to Covid-19 the United States, India and Brazil are the worst hit countries in the world right now. The economy's recovery is clearly not a V-shaped curve, as Donald Trump would like to claim, but a more fragile and rickety curve that is potentially a "U" curve but could also become a "W" curve of uncertainty and double-dip recession. This is the time to invest in the relaunch and modernization of the economy, not to waste in sterile polemics among political parties and currents.

For America, the vote on November 3rd will change our lives, in one way or another. We will either vote to return the United States back into the family of civilized Western nations, with an Atlanticist tradition for our allies, with respect and friendship for Europe, and with a renewed commitment to becoming a participating member again in the multilateral system on climate change, world trade, world health and human rights. Or we will end up with an increasingly authoritarian American leader whose trade wars damage the world economy and whose obsequious behavior toward dictators is an embarrassment to our country.



Alan Friedman, journalist, writer and economics expert

As for Italy, its biggest and most important test this autumn is not the regional elections. Nor is it even the populist referendum designed to cut the parliamentary numbers. The real test for Italy instead is whether its government will be able to agree on and present a clear and comprehensive plan to modernize the economy. We need to see a credible Colao Plan redivivus and shortened, or a plan for the digitalization and green economy and health and education and infrastructure investments that can be funded with 209 billion dollars of European grants and zero interest loans. And we need to see, by mid-October, a serious set of structural reforms that show the Italian government to be serious and thoughtful about the future.

America has a chance to elect someone whose name is not Donald Trump. Will it happen? Italy has a chance to remake its economy, create enormous job opportunities and finally take a step into the 21st century with reforms that improve on its chronically low productivity. Can the government of Giuseppe Conte achieve this? It would appear that an auspicious autumn of important milestones awaits us, on both sides of the Atlantic.



A new tax structure for Italy

Our country needs a dramatic tax reform, a sort of revolution leading to rebalancing the Government and its taxpayers.

by Rossano Salini*

One of the elements of the complex relationship existing between the Government and citizens that usually turns the balance of "morality" towards the former to the total detriment of the latter is the thorny issue of tax evasion. To put it very simply, people tend to always repeat: "If everyone paid taxes, the Government would have the money it does not have to make services truly efficient in Italy". Those who try to counter this view, on the other hand, claim that evasion may drop if taxes were lowered, that is if the triggering cause of the issue was reduced, which is plausible but extremely hard to be proved.

The issue should instead be dealt with from a different point of view. An important document published by proactive and praiseworthy Cgia *(Italian National Confederation of Craftsmanship)* of Mestre can be helpful in this sense. The document, bearing the significant title "Waste in PA is worth twice as much as tax evasion", points out that contrary to what people think in the "give-and-take" relationship between the Government and Italian taxpayers, it is the latter who lose. As the editors of the document correctly warn, PA waste can be hardly quantified in statistical terms; however, according to data collected from authoritative and verifiable sources, it is calculated that tax evasion is worth 110 billion per year (as estimated by the Ministry of Economy and Finance) versus a total waste amounting to about 200 billion. The Government spends 57 billion of taxpayers' money every year in useless and cumbersome red tape which burdens businesses (The European House Ambrosetti); it does not return 53 billion to citizens that is the amount of PA trade debts (Bank of Italy); it does not provide adequate infrastructural services which leads to damage amounting to 40 billion (Ministry of Infrastructure); based on a comparison with Germany, it reduces potential GDP by 40 billion due to slow judicial proceedings (Cer-Eu-

res); it uselessly spends 24 billion that may be cut by implementing adequate spending review (European Commission); it wastes an additional 23.5 billion due to corruption in healthcare (Ispe); it eventually wastes 12.5 billion due to inefficient local public transport (The European House Ambrosetti - Ferrovie dello Stato). **The total would amount to 250 billion however, as a precautionary measure, Cgia has taken into account that it is impossible to scientifically and statistically prove such data, because some of them may overlap. This is the reason why, as a precautionary measure, total annual waste is estimated to be around 200 billion, which is still almost twice as much as estimated total tax evasion.**

Important considerations

I consider to be of paramount importance. First, as already mentioned, it is not at all trivial to conclude that the moral balance in the Government-citizens contract leans in favour of the latter and not of the former, as people usually believe. Such finding does not only stem from quantitative calculations highlighted in the aforementioned document but also from qualitative considerations. The quality of the Government's "affront" vis-à-vis citizens implies an additional aggravating factor. Evasion is indeed - and rightly - punished as a crime. It is not at all justified. One does not a turn a blind eye when it is identified. The Government's waste of citizens' money, on the contrary, despite being extremely serious per se, not only is not considered as a crime, it is often permitted and continues even when it is identified and reported. This is no small difference and clearly highlights where the abuse of power lies. The second consideration is particularly relevant, due to the referendum held to confirm the cut in the number of MPs aiming at cutting the costs of politics which has been trumpeted and hoped for as a panacea of all evils. Figures on PA waste allows making a merciless comparison between somehow negligible savings estimated due to cuts in the costs of politics, in particular stemming from the reduction in the number of MPs, and the frightening figure of waste in the Government machinery - which is not politics – that may lead to a complete change in Italian economic structure if downsized. One is a battle of slogans with poor if no practical effects and the other is a battle that should be conducted to actually and effectively impact on our daily lives. **And all this neglects the fact, which goes beyond the present discourse, that political representation may be reduced which would ensure fair democracy.**

Tax revolution

In conclusion, the one and only reform needed in Italy is a dramatic tax reform. So dramatic that it should actually be a sort of revolution. Nobody denies that the costs of politics must be adequately monitored and nobody denies that the fight against tax evasion must be pursued with rigour and with no favours. However, at the same time, nobody can think that reduction in the costs of politics can actually impact on the economic scenario of the country, just as nobody can hide behind inconsistent statements like "if everyone paid taxes". It would be like saying that things would be better if we were all better individuals. Silly and trivial. Given the need to minimize infringements as much as possible, the main goal is to make sure that no violations occurs under the aegis of the law. This is what constantly happens with the Government's waste of citizens' money. This is why the priority should be working to dramatically change the Italian tax structure, for example by actually linking taxes paid to the use of certain services. Instead of keep using current procedures, where taxpayers' money is thrown indiscriminately into the cauldron of the treasury and taken from it to be spent with no rigour and control, it would be better to create an actual tax-service link: money stays in citizens' pockets and is taken only when a service is requested and used. All this should however envisage an equalisation fee allowing everyone, even those who cannot afford it, to access to essential and indispensable services. This reform may actually change Italy profoundly as well as reset the current scenario in which the Government acts towards taxpayers with arbitrary conduct that sometimes reminds of absolute power of monarchs and not of a modern democratic and liberal State.



Italy's last chance

The big opportunity: available there are 209 billion Euros of interest-free loans and grants to modernize the economy and become more resilient. The big challenge: can the Government present a credible and serious package of reforms by October 15?

by Alan Friedman

This is a rare moment for Italy. A moment of great opportunity but also of great risk. Every medallion has its face, I believe the expression goes. With the European Recovery Fund ready to be disbursed as from early 2021, and with some of the total of 209 mld in European grants and interest-free loans available upon request even this autumn, Italy has some big decisions to make. It is time to seize the moment, to present a credible and serious package of both investment plans and economic reforms that will improve Italy's chronically low productivity levels. The risk I see as an economist at present is that the political parties treat the 209 billion Euros of European funds as a "treasure" or as a "cake" to be divided proportionately among themselves. There is still a risk that irresponsible politicians may try to use some of these funds for a spending spree that is subject to ancient rules of subdivision, or even for electoral purposes. The funds need to be allocated to a national plan for innovation, for modernization and with social equity.

The reforms Italy needs

My hope is that the Government will present a responsible package of reforms by the deadline on October 15th and show that Italy is capable of grasping the mantle. This is a rare opportunity to push ahead on the digitalization of the economy, on the diffusion of broadband to the national territory, a chance to launch the green economy and money-making opportunities for smaller enterprises. And this is the time to reinforce the resilience of Italy's national health system, and to strengthen our ability to live with the virus for at least a year or two more. This is the time to invest in our schools and our children and their education, and to equip them with the skills they will need in the 21st century.

This is also the time to reform the civil law system so that investors and companies do not need to wait a decade for a judgement on a lawsuit. This is the time to finally try again to reform the Public Administration rather than to reward them with salary increases for electoral purposes. This is the time to finally try again to liberalize the economy, and to reform the old corporations and the fixed tariff cartels of pharmacists, accountants, architects and notaries. (Yes, the reforms that Monti tried to do and failed).

This is also the time to engage in a serious fiscal reform, but one that is based on progressive principles and not populist demagoguery. There is no

magic flat tax that will cure Italy's ills. There is only the possibility of steadily cutting the tax wedge, and corporate taxes, while also proceeding with a simplification and lower rates of personal taxes. But the European funds are not intended to finance tax cuts. They are meant to cover the cost of helping the jobless, to help to reinforce our health system, and to help to finance new infrastructure and other investments that can create many jobs. The funds are meant to help Italy to recover and to become a more modern European economy. That is why they are called "Next Generation". These are European funds that Italy can use to save itself and relaunch itself. A once in a lifetime opportunity. The Italian economy will recover from the damage caused by Covid. Not completely, but eventually in large part. This process could take two or three years however, and in this period the health of the economy will depend on the health of the public, and on the state of the battle against Covid. If there is not a major second pandemic wave, the economy should be poised to further recover in 2021 and 2022. That is the good news. But by 2022 we will only be back to the GDP level of 2019, which was then growing at only 0,3%. So, these funds are needed. That is why this is such a rare opportunity. Because in this time of Covid we need to relaunch the economy but at the same time each of us can have the opportunity of reinventing ourselves. For the Italian economy the buzzwords digitalization and sustainability are positive, and both are part of a chance to really enhance the growth and technology innovation potential of the Belpaese. The Colao report said the same. But what happened to the work of **Vittorio Colao**? I hope it is integrated into a national plan this October

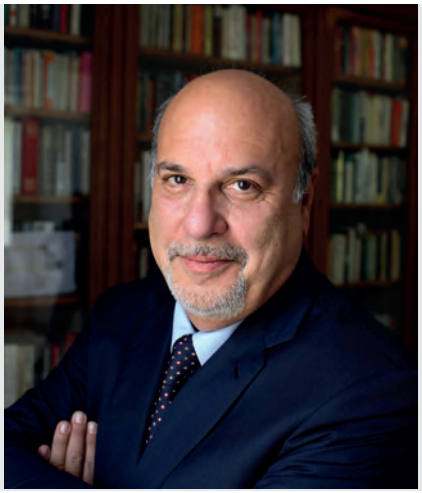
The responsibility is with the Government

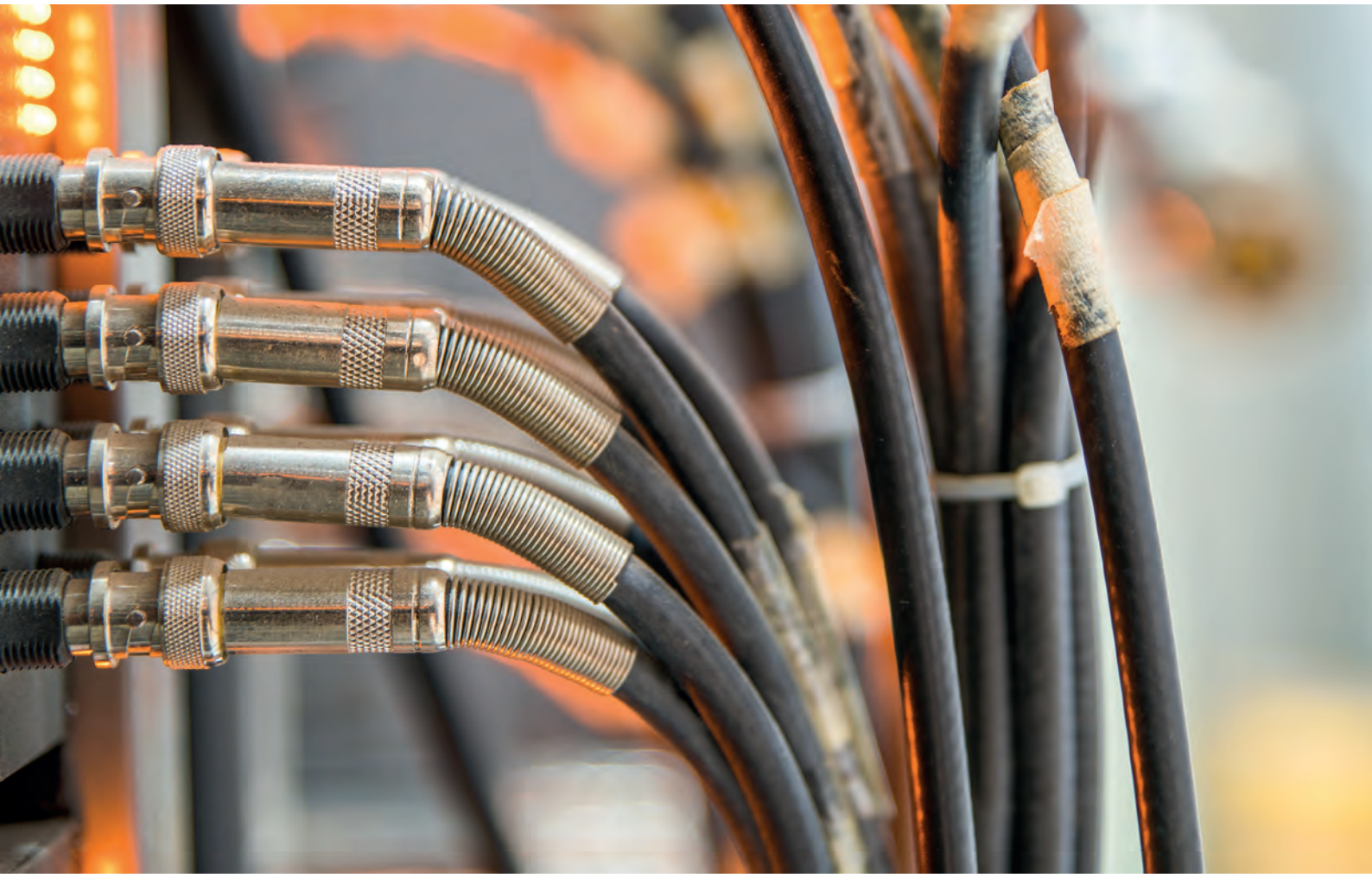
Paolo Gentiloni has been pretty clear about the importance of the European funds. The European Commissioner for Economic Affairs, perhaps Italy's most credible voice on the international stage today, has warned that the national plan which the Conte Government needs to submit should not be a "shopping list" but rather a clear roadmap of how Italy can be modernized, with new investments and with a concomitant series of reforms. Gentiloni has stressed the importance of not "wasting this opportunity". He has made clear that by October 15th Italy needs to submit a cohesive national plan of reforms. So, the responsibility is now with Palazzo Chigi.

The challenge for Italy therefore is to use the money wisely, to plan in a careful and coordinated manner, to place national priorities above partisan politics. In other words, the various personalities and parties inside the Government need to come together in a serious manner and agree a roadmap of reforms. There is no room for populism in such a serious enterprise. Can the Government, despite its disparate elements, achieve this? We will soon discover the answer. Let us hope the answer is affirmative. Some of the reforms that are needed are the same that Berlusconi promised but never delivered, that Monti tried to introduce but failed to deliver, that Renzi tried to start but with which he succeeded only half. Everyone knows the basic reforms that are needed to make Italy a more competitive economy. The question is whether Italy's government can rise to the occasion, by October 15th. Let us hope so. The future of our next generation could depend upon it.

Who is Alan Friedman

Alan Friedman is a journalist, writer, television host and economist. Correspondent for the *International Herald Tribune*, global economy columnist for the *Wall Street Journal*, he worked for the *Financial Times* in London from 1979 to 1993: in this period he was awarded with the *British Press Award* four times. He also had a professional experience as Presidential Management Intern in the administration of President Jimmy Carter. The scoop regarding the Iraqgate scandal in 1991, which involved the CIA and the Italian BNL, was one of his most famous. The book "Questa non è l'Italia", published by Newton Compton, is his ninth best-seller.





Electronic connectors by market sector

Let's take a look to data about the connector industry by market sectors, viewed over the same period, and provide a more granular look at these markets for the European region.

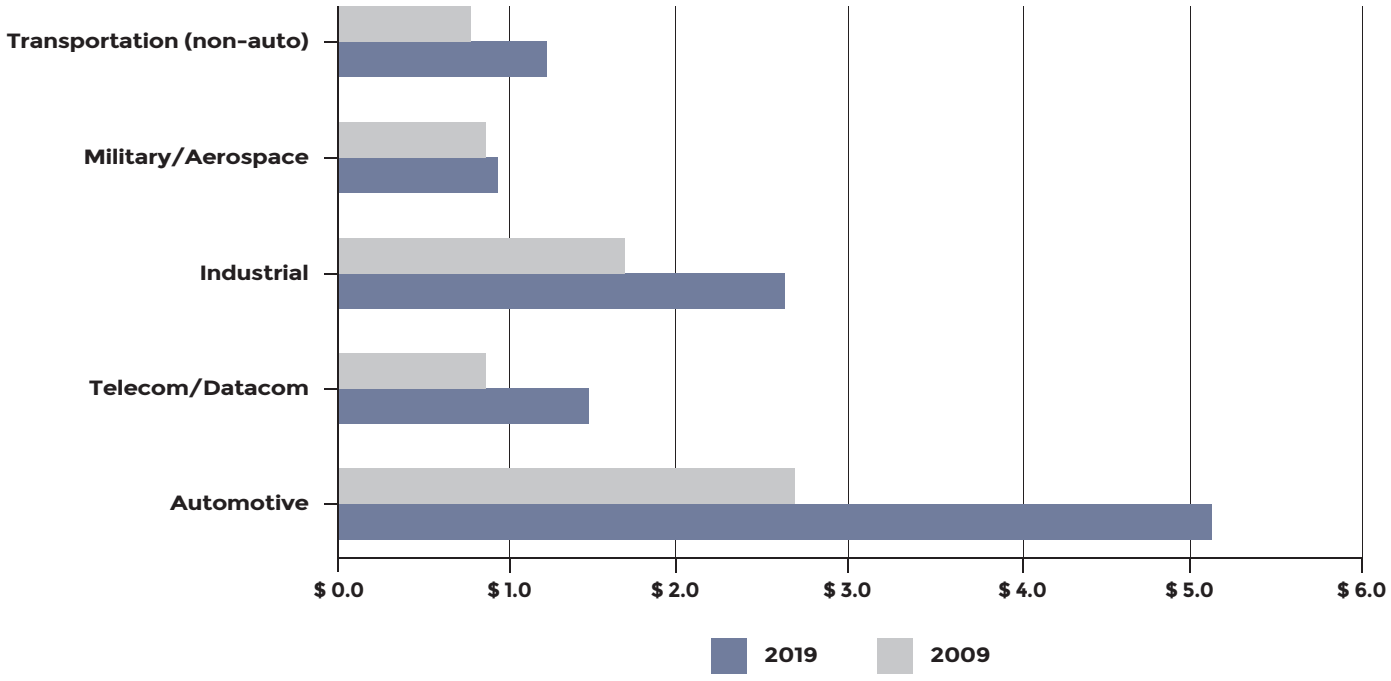
by Ron Bishop

Bishop & Associates breaks out the connector industry into 11 market sectors: Computer & Peripherals, Business/Office Equipment, Instrumentation, Medical Equipment, Industrial, Automotive, Transportation (non-auto), Military/Aerospace, Telecom/Datacom, Consumer, and Other. The fastest-growing market over the past 10 years was telecom/datacom, with an 8.0% 10-year Cagr. Telecom/datacom was followed by automotive with a 10-year Cagr of 7.8%. Transportation (trucks, trains, and commercial airplanes) and in-

dustrial were the third and fourth fastest-growing markets, with a 10-year Cagr of 6.3% and 6.0%, respectively. The following graph compares the five largest electronic connector markets between 2009 and 2019.
Sales growth in the telecom/datacom and automotive markets more than doubled over the observed period. The automotive industry and telecom/datacom grew 111% and 116%, respectively. The faster rate of growth in the telecom/datacom and automotive markets has led to a significant increase in their relative market size. The telecom/datacom industry had seen an astounding 4.6% growth in market share from 2009-2019, with the automotive industry following a similar trend at 4.4%.
The three slowest-growing markets from 2009 to 2019 were the military/aerospace (+25%), business/office equipment (+24%), and other (+17%). These three defined markets have seen relative market share diminish by -2.2%, -0.5%, and -1.8%, respectively. For the military/aerospace market, decline in market share was driven substantially by the switch to commercial off the shelf products (COTS) and a decline in government spending in many countries.

The European Electronic Connector Industry by Market

Europe is the third-largest connector region of the world, with connector sales of 13.554 billion USD in 2019. In 2019, Europe recorded a year-over-year sales decrease of -4.0%. This was in steep contrast to the increase in connector sales of 14.7% in 2018. In the past 39 years (1981-2019), the European region has had 10 years in which sales declined: 1985, 1989, 1992, 1993, 2001, 2002, 2009, 2012, 2015, and 2019. Over the same 39-year period, the European region has achieved a Cagr of 4.4%.
The European connector industry has grown more slowly than the world market, with a 10-year Cagr of 4.5% in USD. One feature complicating the comparison is the exchange rate fluctuation between the euro and the dollar. The dollar has appreciated against the euro over this 10-year period by 24.1%. In 2009, a euro purchased 1.39 USD while in 2019 that same euro purchased 1.12 USD.
In addition, connector demand in the European Union was negatively impacted by macro-economic shocks over the last 10 years, including



Sales of connectors on the European market for final application in 2009 and 2019
(in billions of dollars, source Bishop & Associates)



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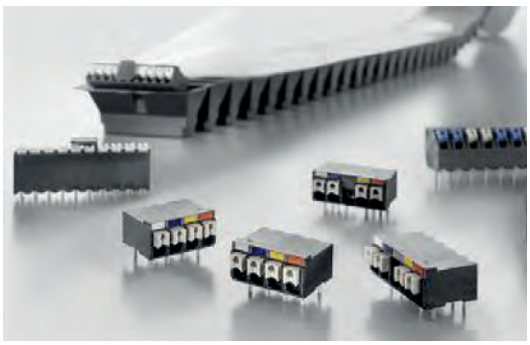
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2019	World Region						
MARKET SECTOR	North America	Europe	Japan	China	Asia Pacific	Row	Total Word
Computer & Peripherals	6.1%	4.3%	7.5%	52.9%	27.1%	2.1%	100.0%
Business/Office Equipment	18.3%	14.0%	23.2%	21.4%	16.2%	6.9%%	100.0%
Instrumentation	32.0%	26.6%	8.7%	24.4%	5.5%	2.7%	100.0%
Medical Equipment	34.1%	31.3%	8.0%	14.3%	8.0%	4.2%	100.0%
Industrial	25.6%	33.0%	7.7%	18.4%	10.3%	4.9%	100.0%
Automotive	26.0%	33.5%	9.0%	21.6%	7.8%	2.1%	100.0%
Transportation (non auto)	26.6%	27.2%	5.7%	25.9%	7.6%	7.0%	100.0%
Military/Aerospace	47.2%	24.6%	5.0%	12.2%	6.4%	4.7%	100.0%
Telecom/datacom	15.1%	10.3%	4.2%	43.9%	19.9%	6.6%	100.0%
Consumer	7.2%	5.5%	14.6%	35.3%	27.7%	9.6%	100.0%
Other	26.1%	19.2%	11.6%	17.0%	20.6%	5.6%	100.0%
	21.6%	**21.1%**	**7.6%**	**30.4%**	**14.7%**	**4.6%**	**100.0%**

Sales of connectors by market sector and by region
(source Bishop & Associates)

the global financial and the sovereign debt crises. The European connector market in 2019 was 21.1% of total world sales, down from 23.4% in 2009. Europe has lost market share in all 11 Bishop-defined market sectors during the last 10 years. The markets with the most significant declines were instrumentation (-5.6%), industrial (-5.1%), medical equipment (-4.4%), and military/aerospace (-4.3%). Much of Europe's connector market share loss was redistributed to China. China gained market share in instrumentation (+7.5%), medical (+5.2%), and military/aerospace (+5.5). The European connector markets with the most growth over the observed period were the automotive and telecom/datacom industries, up 90.6% and 71.3%, respectively. The industrial sector grew at a modest 55.4% over the 10-year period. The military/aerospace industry grew at an anemic 6.7% as European countries cut funding for this sector. Despite the decline in absolute market share, Europe leads the world in electronic connector sales in the industrial (33.0%), automotive (33.5%), and transportation (27.2%) industries.

The impact of the Covid-19

The impact of the Covid-19 pandemic will not only have a significant impact on connector industry sales performance in 2020 and 2021, it will very likely lead to changes in regional manufacturing and sales activities for years to come.

Who is Ron Bishop

Ronald E. Bishop is a world's leading connection expert.
In 1985 he founded **Bishop & Associates**, a market research firm that specializes in the world electronic connector industry.
The firm publishes **"The Bishop Report"**, a monthly research newsletter and several weekly publications by connectorsupplier.com. A staff of 20 researchers produces reports centered on geographic regions, end-use equipment markets, connector products and interconnect technologies. The US headquarters is located in St. Charles, Ill., Chicago. The firm also has offices in Brussels, Sidney and Hong Kong.





2020 will be a year of double-digit decline

Deep Covid-19 Impact on European Semiconductor Distribution in Second Quarter. DMASS reports -20.7% in semiconductor revenue in Q2/2020. Clear Covid-19 context in results across Europe.

by Laura Reggiani

What was still a mix of market- and pandemic-driven uncertainties in Q1, turned out to be a real, directly Covid-19 and lockdown-related downturn for the European Semiconductor Distribution in the second quarter of 2020.

According to **DMASS**, sales in the European Semiconductor Distribution Market fell by 20.7% to 1.82 Billion Euro.

Georg Steinberger, chairman of DMASS: *"As feared in our Q1 PR, the Covid-19 pandemic and its economic aftermath, starting across Europe in February and March, hit the electronics industry with full force in the second quarter. Manufacturing shutdown, economic uncertainties among consumers and companies and lack of supply chain visibility drove many customers to step on the ordering brake and led to a lot of pushouts on existing orders.*

Ironically, it could have been worse, and we do not really know what will come at us in the second half of 2020 – Rally or Rafting."

Better for Ireland, Netherlands, Austria and Russia

At a country or regional level, the situation was equally bad across the board and major regions and markets ended with a double-digit decline (except Ireland, Netherlands, Austria and Russia): Germany went down by 21.6% to 528 Million Euro, Italy ended at -19.3% and 161 Million Euro, France at -21.4% and 121 Million Euro, the UK at -23.6% and 119 Million Euro, Eastern Europe at a staggering -30.6% and 279 Million Euro and the Nordic countries at -33.2% and 138 Million Euros.

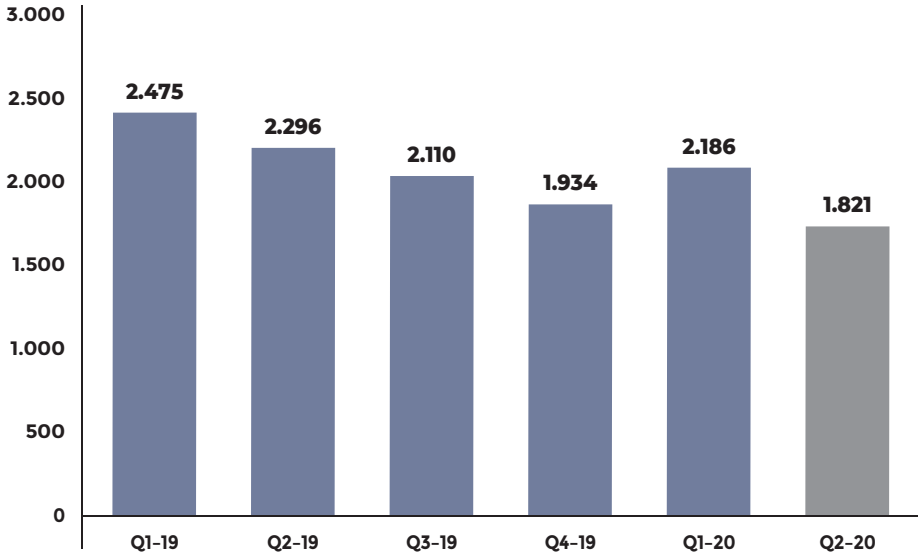
Georg Steinberger: *"It is almost impossible to find anything positive or less negative in Q2, but clearly countries that are predominantly contract manufacturing-driven suffered most."*

No good news for commodities

No positive news on the product side, except that more design-oriented and exclusive products declined less than standard products.

Of the major product groups, Standard Discrete went down by 31.4% to 87 Million Euro, Discrete Power by 23.5% to 196 Million Euro, Opto by "only" 17.1% to 164 Million Euro, Analog by 22% to 534 Million Euro, Memories by 32.4% to 141 Million, MOS Micro by 15.3% to 383 Million Euro, Programmable Logic by 12.8% to 128 Million Euro, Standard Logic by 18.2% to 27 Million Euro and finally Other Logic by 14.5% to 112 Million Euro.

Georg Steinberger: *"Besides Covid-19, you also see some special effects of product categories slowly deteriorating – arguably legacy technologies like SRAMs and EEPROMs – or disappearing from distribution as an effect of suppliers taking some business direct, like Digital Signal Processors (DSPs). But none of those have a major effect on the totals. However, the fact that standard products are suffering more than expensive specialties is strange, as the financial risk on the customer side is rather low. We will see how this pushback on standard products develops, once the market turns around."*



The quarterly trend of semiconductor sales by distribution in Europe (turnover in millions of euros, source Dmass)

Towards a new more sustainable world

2020 will be a year of significant double-digit decline, *"Whether we like it or not"*, said Georg Steinberger.

"And it could, no, should be the beginning of a reassessment of how we operate as an industry and at a larger scale, as society in general. It is clear that resources become scarcer and the throwaway mentality of the last 50 years will lead to disaster.

Technology can play a major part in recreating a sustainable world, but as we can see by its interrupted supply chain, it is also part of the current problem.

The big question is: how can the significant influence of technology be used to make changes to a sustainable better world? Can it?"

In the front line for a “smart” world

Through solutions designed for the world of the third millennium, Phoenix Contact is conquering a leading role in a scenario where the industry, energy, infrastructure, mobility and construction are becoming increasingly smart due to digitisation and automation.

by Virna Bottarelli

2019 closed positively with a consolidated turnover of around 2.5 billion euro, 18,000 employees and over 50 subsidiaries worldwide: these are Phoenix Contact’s global figures. The Italian subsidiary, which employs more than 130 people, had a turnover of around 96 million euro last year. In addition to its good performance in the historic markets of electronic device and machinery and energy manufacturers, good feedback also came from new fields such as electric mobility and additive manufacturing. **Roberto Falaschi**, Sales & Marketing Director of the company, has commented on the business outlook opened by these sectors: *“Our Vision has led us to identify five main pillars for development in the coming years, all closely linked to digitalization which has now been underway for some time: smart industry, smart mobility, smart energy, smart infrastructure and smart building”.*



After your good performance in 2019 and a good start of the year, you had to face the crisis triggered by Coronavirus. How did you react?

Like everybody else, we suddenly found ourselves in this unexpected event that has overturned traditional business logic, from work organisation to customer relationships. It is hard to define the outlook for the current year, in that we experienced a slight slowdown in March and April due to lockdown of many companies. As always, important lessons can be drawn from difficult times and the secret to moving forward lies in capitalising on your experience, finding positive aspects which are always there even though they are less obvious than negative ones and are often extremely valuable. We have learnt that Smart Working can be used to ensure high efficiency, presence and support to customers even without shaking their hand. We have launched a number of very successful digital business initiatives, such as our “Academy”: over 60 webinars on technical topics, including functional security, cyber security, networking and over voltage protection. 2-hour training sessions available for free on the web. We have also provided a virtual assistant, “Conny”, so that customers could book their digital appointments themselves, selecting topics, days and times. Furthermore, we have held courses on specific application themes and on new products for Electronics and Automation. Lastly, considering 2020 Hannover Messe was cancelled, we have launched “Phoenix Contact Dialog Days”, i.e. digital dialogue days on 2020 new products, their features, benefits, applications and trends. All this aimed at getting to know each other, discussing ideas and sharing information on innovations, to start a

digital exchange and collaborate to develop creative solutions for a smart world. To cut a long story short, we have looked for and found the glass half full aware that the only way forward is change.

What are your R&D and training activities in electronics moving towards?

Product innovation is still a pillar of the brand and we continue to invest at least 5-8% of the group's annual net revenues in R&D. We are now developing products in line with international emerging and developing market macro-trends: we have developed and expanded the range of specific connections for Battery Storage, Ups and e-mobility and also of connections for data applications, for all fieldbus including those suited for semi-industrial and industrial performances. Technical training has been another pivotal asset of our company for four yeas now: in addition to usual Phoenix Contact events, in partnership with companies operating in Pcb and Pcba electronic production chain, we have participated in the latest editions of "T-Day". These training days are held in different areas of Italy and are organised by a group of companies having different though complementary skills in the production of printed circuit boards and electronic assembly. We will also organize training sessions on industry standards starting from IPC standards, the main international benchmark for electronics. We will do it because an increasing number of companies, especially large international players, are relying on these standards to replace or complement their technical specifications so to have at the end clear and certain criteria. Failure to know these standards and to have non-certified staff in companies leads to losing an increasingly significant share of the market which nobody can afford to.

How have electronic designers evolved over the last twenty years in your reference markets?

In the last two decades we have experienced quick-paced technological progress and profound transformation of work tools which have significantly impacted on the evolution of electronic designers. Constant efforts to achieve increasing miniaturisation and integration of hardware, meaning the combination of electronics and mechanics, and software/firmware require increasingly across-the-board knowledge. Today it is no longer acceptable to have competences that are too vertical because they limit overall vision and understanding and how electronic boards can interact with the rest of the equipment and the surrounding environment. Development tools are also moving in the direction of convergence of competences. If we just think about the latest Cae/Cad systems it is increasingly common to find affordable solutions integrating features that used to only be available on dedicated and extremely expensive platforms. That tool designers can use today makes it possible to design and simulate electronic diagrams, to solve printed circuit boards with signal/power integrity and cross-talk analyses, to integrate mechanical parts and even thermal analysis. All this within a single digital modelling and virtual prototyping platform. Designers therefore have to deal with increasingly varied and complex issues that were previously handled by different specialists. Modern designers also need to have skills required to follow the entire project at all stages, from design to technical drawings and circuit diagrams, from prototyping to feasibility studies, up to production, testing and certification. For example, it is no longer acceptable to design electronic equipment without assessing its impact on the manufacturing process and the possibility of carrying out efficient testing. In conclusion, electronic designers are undoubtedly facing with a big challenge, requiring considerable ability to deal with extremely diverse issues while constantly, increasingly and quickly evolving which the sector has required for years now.



Roberto Falaschi is Sales & Marketing Director at Phoenix Contact Italy

German solidity Italian versatility

A sales model based on close relationships with customers, cutting-edge logistics and well-established local presence are just a few of Rutronik's strengths illustrated by Pino Cosenza, Country Manager for Italy.

by Laura Reggiani

It is thanks to Pino Cosenza, Country Manager for Italy, that Rutronik was opened in Italy in 2004. The German broadliner distributor has indeed been operating in Italy for over 15 years and, as Cosenza himself explains, figures have been more than positive in terms of both performance and market positioning of the Rutronik brand.



Pino Cosenza is Country Manager Italy at Rutronik

From a "one-man-company" to a distributor operating worldwide. How has Rutronik evolved in its almost 50 years of business?

Rutronik has had the same name and the same owner for 50 years, since it was founded in 1973 by Helmut Rudel. Rutronik is the longest-established independent company still in business. I believe that this is worth to be given special emphasis in the current scenario. We can indeed deal with medium- and long-term programmes and projects together with our customers because we are an independent, solid and stable distributor which is not subject to stock exchange or financial logics.

Not much has changed at Rutronik since then in terms of strategy and market approach. The logic based on proximity to customers is the one set out by its founder who, let us not forget it, was a salesman. This is perhaps generally taken for granted but it is less and less common on the market. On the other hand, the company's owners still ask us to give added value by constantly investing in our relationship with customers.

Rutronik ranks 3rd in Europe and 11th globally. How have you achieved this?

It is not pivotal but one is glad to have achieved such goals, especially considering that Rutronik started from scratch. Our natural ambition is to rank third not only in Europe but also in all countries where we operate. We are also very satisfied with our global positioning. Rutronik was born in Germany, it expanded into Europe and then into those countries where customers have moved



their production, China and South America in particular. A unique path for European distributors which has ensured us an important vantage point, a different view of market logic, price trends and product availability and also leading to advantages at a local level. We have not achieved these results through acquisitions but rather through organic growth. Acquisitions are exceptional ways for listed companies to reduce competition, to increase their turnover, to take over new representatives and boost their stock on the stock exchange but they are not good for a company like Rutronik, which has always preferred to invest in people and grow together with them.

What are Rutronik's strengths and what makes you stand out from your competitors?
As I said at the beginning of this interview, stability is what makes us stand out from competitors, both in time and in people. I am proud to have people who have been working with me for a long time, some of them since Rutronik opened in Italy and others for more than thirty years. I am convinced that having stable personal references can make all the difference, especially in relationships with customers but also with suppliers. Another important element is being an independent company and having an almost unique business model where all decisions, ranging from margins to payment terms, are managed locally. Such management, which allows a multinational distributor to act as a local distributor, gives greater contractual margins to customers and ensures different degrees of interaction.

"Committed to excellence" is your motto. How does it translate into your business?
This typically German motto stems from the mindset of the owner, who has always sought excellence in everything. Excellence in service, excellence in relationships with customers, suppliers and employees. A constant effort in trying to manage things with quality: this is the approach that has come to us from our owner, typical of German culture.

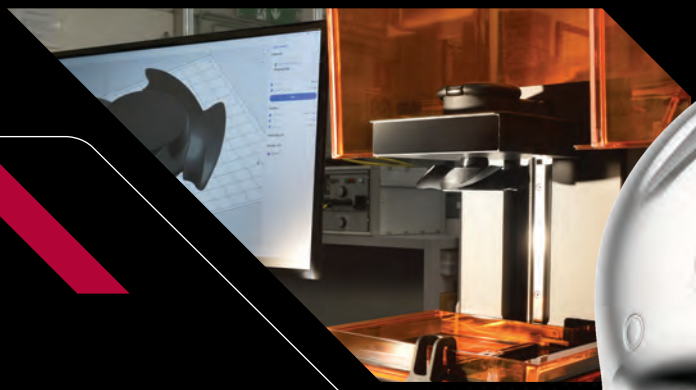
Buyers can use several procurement tools. What services do you offer for the supply chain?
Rutronik has always been at the forefront of logistics, also due to its privileged relationships with the automotive sector which enabled us to develop advanced logistics solutions and tools 40 years ago, such as kan ban, consignment stock and rolling forecast. The business developed through advanced logistics is now 45% of the total: these contracts last at least 2 or 3 years and can only be managed using an advanced logistics structure and systems to have constant chat with customers. To complement all this, we have developed Rutronik 24, our online sales channel, which however does not aim at attacking the business of the so-called catalog distributors but rather at putting our system online and making it available to our customers who can autonomously place orders and plan and schedule. This is a strategy that saves costs for both our customers and us by employing people in a more constructive way.

How important is "demand creation"? How do you support this activity?
Demand creation is an imperative for distribution industry and is a pivotal activity to be 'appealing' to suppliers and customers and, consequently, to



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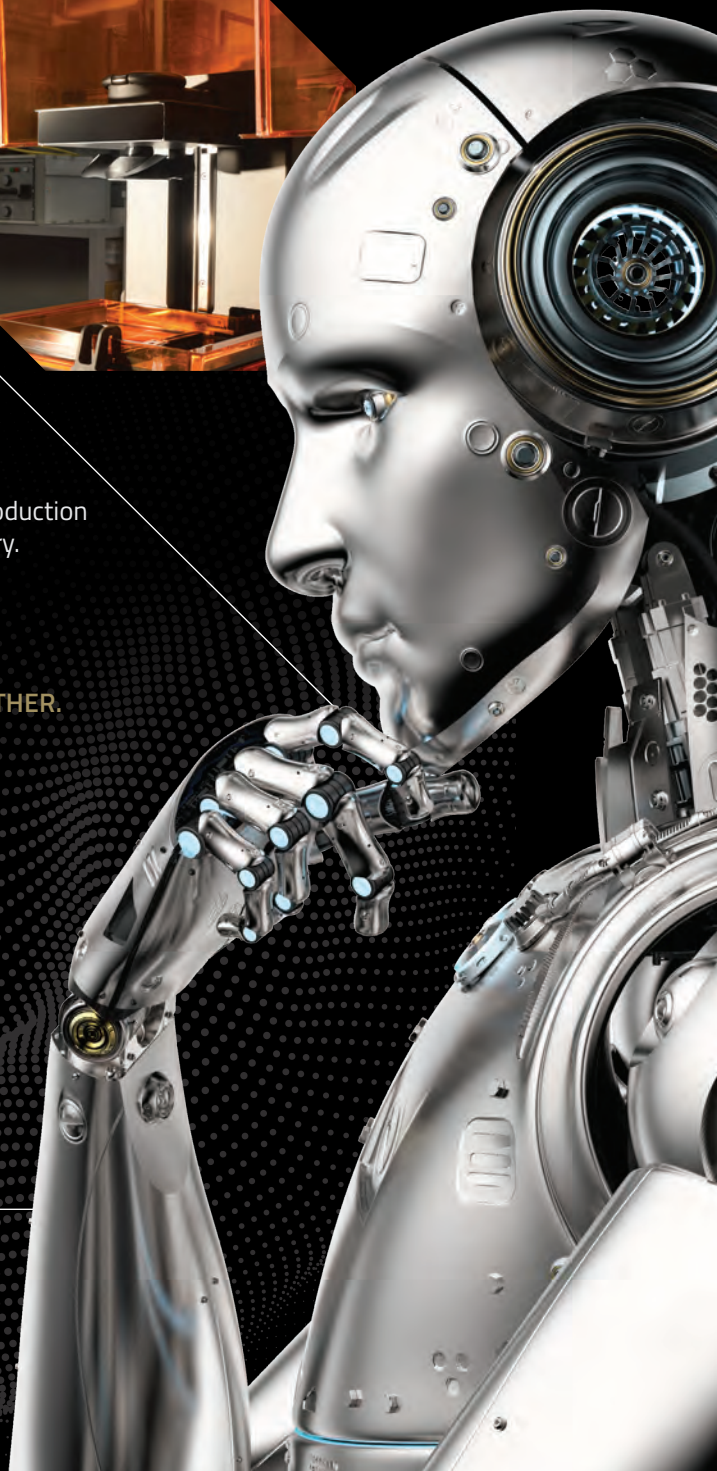


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FEM AND CFD ANALYSIS
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NSF Innovative solutions for a changing world

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grow. Without demand creation one is forced to act just like a trip to the supermarket where price and availability are the only weapons available. Our focus on demand creation is proved by our continuous investments in people and by the fact that 25% of our staff includes engineers who are involved in product promotion.

The automotive sector has historically been one of your reference market. What has led you to be a leader in this field? What are the current trends in this market?

Rutronik was born in Stuttgart, home of the automotive industry. Rutronik has always followed that type of business and, as I mentioned earlier, advanced logistics systems. Today it is our target end market amounting to 50% of our total business, a little smaller but still important in Italy. The main trends, in addition to the ever-increasing integration of electronics in cars, include electrification of vehicles complemented by the important spin-off business of charging stations. In the last few months, due to Coronavirus, manufacturing has slowed down but I am pleased to see that investments have not changed at all and much emphasis is given to them by all manufacturers, also spurred by the latest European regulations.

How is Rutronik positioned and structured on the Italian market? Which sectors are you focusing on?

Italy is the benchmark for distribution, business models and activities and is one of the most aggressive market in Europe. Over the last 7/8 years it has grown steadily, however this year, for the first time, there will be a major downturn. We rank third also in Italy but we aim at increasing our market share to 10%. Our organization employs 75 people in offices based in all macro-regions: Milan, Turin, Padua, Bologna, Florence, Ancona and Rome. We believe indeed that widespread reach and local presence are still part of our strengths. As far as applications are concerned, in addition to the automotive sector I have already mentioned, Rutronik's sales mainly come from the industrial sector and the vast universe of subcontractors.

How much is Coronavirus impacting your business?

The impact of Coronavirus will obviously be important and we have estimated it will lead to a 20% contraction in Rutronik. September has arrived, things have already happened and we do not expect any big surprises in the last few months of the year. Recovery will gradually start by the end of the year and it will be more significant in 2021 with a growth peak estimated by analysts at 10-15%, which unfortunately will not make up for 2020 losses but will give the market some boost. What we are experiencing is one of the worst crises of the last twenty years which must also serve to make different and more cautious investments.

How do you see the company in the next 5 years? What will Rutronik's future challenges be?

Concerning our investments in Italy and, consequently, future challenges, we are fostering the expansion of our customer base through Rutronik24, both online and through our agents on the field who are set to increase in the number. We are indeed already well positioned with all the main large customers but we want still work to cover a market segment consisting of small to medium-sized customers. We also want to consolidate our presence in the distribution network on the most important manufacturers, whereas we do not have any big needs at a franchising level even though we are selecting some new manufacturers and we will probably be involved in some international mergers.

Your entire career has been in the business of distribution. How has the market changed over the years and how do you expect it to change in the next few years?

I am 58 years old and I spent 37 of them in the business of distribution; first at Silverstar, Fanton, Eurodis and then Rutronik. I started working when there was no air conditioning in cars, when mobile phones and computers did not exist. In my mind, the image of distribution of the past is black and white, while the one representing today's scenario is three-dimensional. Everything has changed since then; today it is all based on performance and this has unfortunately been quite detrimental to human relationships. Distribution today is a market that requires professionalism and expertise at every level and performance has become essential: this is why I am preparing the next generation of professionals for my company without leaving out a good pinch of empathy and good mood in human relationships.



IoT at the Speed of Light

The future demand for wireless communication networks within buildings and outside will further increase. The optical light communication called Light Fidelity (Li-Fi), using LED-based light sources as data transmitters, offers an alternative to existing technologies such as Wi-Fi and LTE.

by Gerhard Kafka*

Communication by light, in the form of beacons, has already been used since 800 BC, reaching its climax in 280 BC with the legendary Alexandria lighthouse.

Around 400 BC Greeks used polished shields, so-called heliographs, to transmit signals during armed conflicts. Over 2,000 years later, in 1880, Alexander Graham Bell and Charles Sumner Tainter developed the Photophone, a telephone that used light to transmit speech. In 2005, research into optical wireless communication (OWC) began at the University of Paris-Saclay and is reaching market readiness today. The annual growth of the Light Fidelity (Li-Fi) market is estimated to be 80 percent up to 2023 and the sales volume, worth 0.5 billion dollars in 2016, could explode to 75 billion in 2023. The term Li-Fi was coined by Professor Harald Haas, a German researcher at the universities of Bremen and Edinburgh, during a presentation at the 2011 TED Global Talk conference and stands for visible light communication (VLC). Li-Fi can deliver speeds up to 200 times faster than Wi-Fi – theoretically more than 200 Gbps. In July 2019, the start of a three-year project called Enhancing Lighting for the Internet of Things (ELIoT) was announced. The aim of the project is the development of mass market IoT applications based on LiFi. As a project partner, Fraunhofer Fokus will ensure the integration of Li-Fi into 5G networks. ELIoT originates from the EU innovation program Horizon 2020 and receives €6m in funding from the public– private partnership Photonics21. In addition to Fraunhofer Fokus, its Heinrich Hertz Institute plus Signify, Nokia, MaxLinear, Deutsche Telekom, KPN, Weidmüller, LightBee, the University of Oxford, and Eindhoven University of Technology are also participating in ELIoT. The main objectives of the project are to provide an open reference architecture for the support of the Internet of Things and to contribute to the standardization of applications based on communication by light. For this purpose, Li-Fi must meet the ever-increasing demands on existing communication networks in terms of data rates, stability, and latency.

Li-Fi in Aircraft

Li-Fi addresses a large variety of applications in the fields of live streaming, hospitals, workplaces, manu-

facturing facilities, schools, retail, and many more. If, for example, it is employed in aerospace, Li-Fi has the potential to transform both the overall passenger experience and enhance in-flight connectivity. Transmitting data through illumination is attracting the interest of a number of airline companies. Faster and less expensive than WiFi, it could transform the whole passenger experience. At the June 2019 **International Paris Air Show** in Le Bourget, Air France, **Latécoère Group**, and **Ubisoft** demonstrated Li-Fi technology in an in-flight video game tournament showcasing this technology. According to experts, the use of LiFi on board would save the equivalent of ten to 20 people in weight per aircraft. *"Optical fibers are a thousand times lighter than copper"*, said **Serge Berenger**, senior VP of innovation at Latécoère. "*LiFi will allow airline companies to do away with data communication boxes beneath seats, each of which weigh a kilogram"*. Li-Fi connection speeds are more than 200 times faster than those of Wi-Fi and could mean quicker bank transactions on board planes. "*At the moment, airlines have to wait until a plane lands before in-flight transactions can be approved"*, explains Micheline Perrufel, an engineer in **Orange**, *"but, in the future, flight attendants will be able to approve in-flight payments immediately thanks to the installation of Li-Fi in the cabin"*. As well as offering new applications for passengers, Li-Fi will also bring benefits for pilots because it is safer than Wi-Fi and does not pose any risk of electromagnetic interference. Airbus is considering the possibility of installing Li-Fi in its airplane cockpits with a view to connecting the pilot's controls and equipment in a way that is simpler and safer. Li-Fi has the potential to give the future passenger experience a boost. Introducing Li-Fi to the cockpit reduces the number of cables and removes a great deal of deadweight. While Wi-Fi could solve this problem, it cannot be implemented without careful consideration of its vulnerability to external interference and hacking. Li-Fi, on the other hand, is safer as it cannot be transmitted through hulls and windows like Wi-Fi and is therefore impossible to tap from outside. This would make it much easier to prevent data streams in the cockpit from being hacked from inside the passenger cabin than if Wi-Fi was used. Today, we are surfing wirelessly but tomorrow we may all share a brighter future using light.

THE ADVANTAGES OF LI-FI

- Faster than traditional network access.
- No electromagnetic interference.
- Very precise GPS capabilities.
- Eco-friendly.
- Improved indoor connectivity.
- Increased security.
- No health risks.
- Very economical (no license).
- Works well in places where radio frequencies are not permitted or may cause interference with other machines.

Standardization: Making a Market

VLC (*Visible light communication*) is well on its way to becoming a world standard. With the IEEE and ITU-T standards bodies. The first standard, IEEE 802.15.7, was approved in 2011 and the Li-Fi activities have been continued in the IEEE 802.15.13 Multi-Gigabit/s Optical Wireless Communications Task Group. The standard is capable of delivering data rates up to 10 Gbps at distances up to 200 meters' unrestricted line of sight. It is designed for point-to-point and point-to- multipoint communications in both non-coordinated and coordinated topologies. IEEE is also working on a corresponding change to the IEEE 802.11 standard. The main objective is to amend the IEEE 802.11bb standard serving mass-market requirements for light communication relating to low-cost and low-energy consumption. The new ITU G.9991 standard is the first to enable very-high-speed VLC. In addition, VLC, modulated with ITU's Gigabit Home Networking technology, is set to be the next major innovation in realizing the full potential of both the smart home and the smart city. This approach continues to demonstrate the tremendous flexibility of G.hn technology to run over any medium as wireless joins the ranks of powerline, co-ax, twisted pair, and polymer optical fiber (POF) as a G.hn medium. *"VLC has great potential for IoT and smart homes with high-density connectivity needs, especially where sensitive data is transmitted between connected devices in one room. The light spectrum provides low latency and avoids the usual interruption of radio-frequency spectrum during congestion time"*, says **Livia Rosu**, marketing chair of HomeGrid Forum.

*__Gerhard Kafka__ is Smart Industry Manager at Avnet Silica.



Radar, the Car's Virtual Eye

A combination of advanced semiconductor technology, analog expertise, and system software capability will enable radar technology to extend the capabilities of ADAS deployed in the next generation of vehicles. And Analog Devices will remain at the heart of the development of radar now and into the next decade.

by Donal McCarthy*

All assisted driving systems rely in part on multiple forms of perception technology: in fully autonomous vehicles, optical technologies such as LIDAR *(light detection and ranging)* and visual cameras will work alongside electromagnetic motion sensors (accelerometers, gyroscopes, and magnetometers) and RF/microwave systems (radar and satellite positioning).

It might seem surprising that radar, a technology that first caught the public's attention as long ago as the second World War, should today be playing a part in the most exciting developments in automotive technology. But demand for ever higher levels of driver assistance, supported by the evolution of functions such as AEB and adaptive cruise control (ACC) in new ADAS implementations, is driving suppliers such as Analog Devices to develop new radar systems that offer higher precision, longer range, faster detection, and a more complete picture of the technology for two reasons: safety and comfort. Driver assistance systems such as AEB and ACC save lives and prevent accidents. Cars that feature these systems are rewarded with a higher official NCAP safety score, a mark that lifts the value and consumer appeal of new cars. Both AEB and autonomous emergency steering systems continue to evolve in scope and complexity to serve the growing market for vehicles in the Level 2 or Level 3 (L2/L3) categories of driver assistance technology. New NCAP specifications, for example, call for better detection of pedestrians—vulnerable road users, in NCAP's terminology. Developing AEB systems will operate reliably in more complex events than they are typically specified for by controlling the braking function at higher vehicle speeds in both urban and highway settings. The market is also responding to signals from car buyers who want technology to reduce the

effort involved in driving, particularly on the motorway. Premium cars such as the **Mercedes-Benz S-Class** already offer limited highway autopilot capabilities, such as adaptive control of distance to the car in front and active steering assistance to keep the car in its lane. Automotive suppliers are continually implementing enhancements to these features so that they can be used in a wider range of more complex situations. This intensifies the need for radar sensors that offer superior performance. The move toward higher L4 and L5 autonomy, which isolates the driver entirely from direct control of the vehicle, will require the development of sensing systems that have a 360° view around the car in real time. The control systems for these robotaxis will be incredibly complex and will need redundancy to eliminate the risk of false detection events, combining the inputs from separate sensor types such as radar, cameras, and LIDAR sensors. Visual cameras can be used to assist the recognition of objects such as human beings, animals, and road signs. LIDAR technology creates rich point clouds, taking an instantaneous measurement of the vehicle's distance from objects in the outside world and measuring the objects' sizes to produce a high-resolution 3D map of the outside world.

But a radar sensor's unique capabilities, which are continually being extended, make it a crucial complement to these other sensor types in L4 and L5 systems. In L2 and L3 use cases, radar is actually the dominant sensor type because it offers the best combination of size, cost, and performance attributes. Crucially, radar performs 4D sensing: with a single shot, it can measure the range, velocity, angle, and elevation of an object from which its millimeter wave pulse is reflected. A radar sensor also operates in conditions, such as rain, fog, and snow, which impair or disable the operation of LIDAR sensors and visual cameras.

Higher Performance, Greater Integration

Automotive radar systems under development will, in time, make today's radar technology appear blunt and limited in comparison. Today, a radar sensor mounted in the front bumper does an excellent job of measuring the distance to a single vehicle in front and its speed. A full highway autopilot system, however, will need to be able to operate safely on the Autobahn in Germany, where a motorbike, for example - smaller, and so harder to detect than a passenger car - can approach on the outside lane at speeds higher than 180 km/h. To provide early and accurate detection of such a hazard, an autopilot's radar system therefore needs to sense more precisely, faster, and at longer range. Developing these capabilities while staying within the automotive industry's tight constraints on size and cost calls for innovation in semiconductor technology, RF system operation, and signal processing—fields in which Analog Devices excels.

* **Donal McCarthy** is Automotive Radar Product Line Director at Analog Devices.

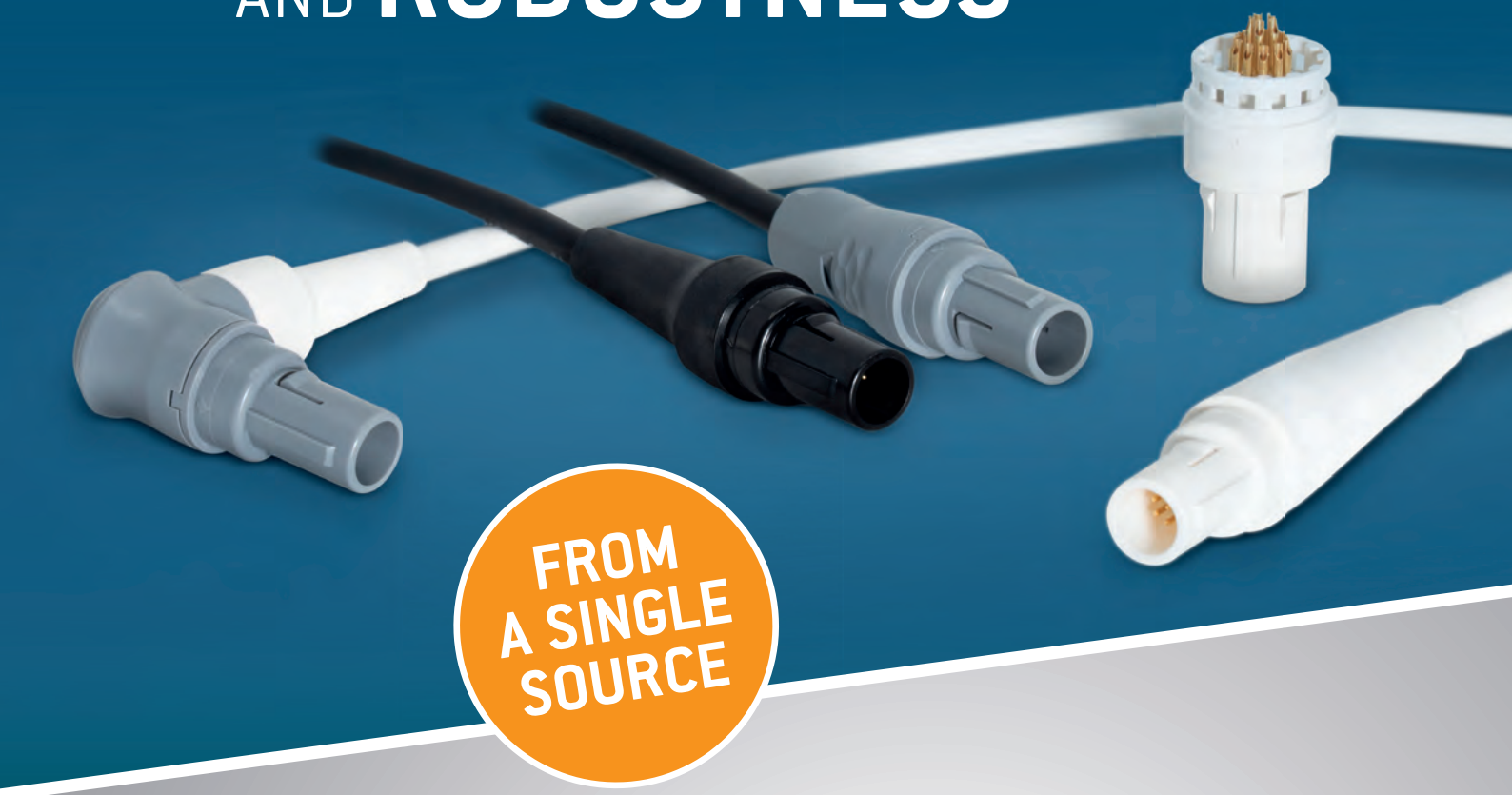
A NEW GENERATION OF RADAR COMPONENTS

At **Analog Devices**, a new generation of radar components, including 76 GHz to 81 GHz monolithic microwave IC (MMIC) transmitters and receivers, is based on a new Drive360 28 nm CMOS technology platform. Marking a departure from the industry's conventional use of SiGe semiconductor technology for radar, the Drive360 platform provides valuable advantages including:

- high output power and low return noise for detection of objects at a longer range;
- low phase noise and high intermediate frequency (IF) bandwidth, giving ultrahigh precision for the detection of small objects such as motorbikes and infant pedestrians, which before would have been hard for a radar sensor to see;
- high performance phase modulation, enabling the radar sensor to discriminate more effectively between multiple objects in a scene;
- ultrafast pulse transmission, giving a faster response to fast moving objects such as a motorbike advancing at 180 km/h.



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by Odu

The ODU MEDI-SNAP® with break-away function forms the basis for the connection configuration and was specially developed for connections that need to be mated or unmated in a matter of seconds. Due to its robust style this connector can badapted to a wide range of environmental conditions in medical technology and industrial electronics, and has a service life of up to 5,000 mating cycles.

The standardized solutions

The standardized solutions based on the ODU modular system allow individual connections to be configured in accordance with customer requirements. From standard overmolding to an angled or straight version as well as silicone overmolding, the ODU MEDI-SNAP break-away connector can be easily configured in numerous different ways: the standard overmolding process is characterized above all by a high degree of robustness and economy, while the angled version is ideally suited to applications in which space is limited, since this the amount of space required can be reduced by around 50%. In particular, the straight version stands out due to its flexibility. It can be assembled in the field and the flexible collet system can also handle cable diameters from 1.5mm – 9.0mm. The silicone-overmolded system solution guarantees easy cleaning by avoiding the stick-slip effect and ensuring a smooth transition from the connector and overmolding to the cable – without unhygienic edges. In addition, the surface properties are permanently preserved during the autoclaving process.

A variety of cable types

Once the connector has been selected, a variety of cable types can be chosen. In addition to robust PUR cable variants for industry, highly durable PVC and silicone cables can also be used for medical applications – in all cases adapted to customer requirements. ODU cooperates with leading cable manufacturers in the corresponding markets and offers exceptional quality thanks to the extensive experience in cable assembly the company has.

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Analog Devices's leadership in analogics

Increase in size, diversification, revenues of 8.2 billion dollars, skills improvement and increase of design skills. These are some of the reasons underlying the acquisition of Maxim Integrated.

Analog Devices and Maxim Integrated Products announced that they have entered into a definitive agreement under which ADI will acquire Maxim in an all stock transaction that values the combined enterprise at over $68 billion.

The transaction, which was unanimously approved by the Boards of Directors of both companies, will strengthen ADI as an analog semiconductor leader with increased breadth and scale across multiple attractive end markets. Under the terms of the agreement, Maxim stockholders will receive 0.630 of a share of ADI common stock for each share of Maxim common stock they hold at the closing of the transaction. Upon closing, current ADI stockholders will own approximately 69 percent of the combined company, while Maxim stockholders will own approximately 31 percent. The transaction is intended to qualify as a tax-free reorganization for U.S. federal income tax purposes.

"Today's exciting announcement with Maxim is the next step in ADI's vision to bridge the physical and digital worlds. ADI and Maxim share a passion for solving our customers' most complex problems, and with the increased breadth and depth of our combined technology and talent, we will be able to develop more complete, cutting-edge solutions," said **Vincent Roche**, President and CEO of ADI. *"Maxim is a respected signal processing and power management franchise with a proven technology portfolio and impressive history of empowering design innovation. Together, we are well-positioned to deliver the next wave of semiconductor growth, while engineering a healthier, safer and more sustainable future for all."*

"For over three decades, we have based Maxim on one simple premise – to continually innovate and develop high-performance semiconductor products that empower our customers to invent. I am excited for this next chapter as we continue to push the boundaries of what's possible, together with ADI. Both companies have strong engineering and technology know-how and innovative cultures. Working together, we will create a stronger leader, delivering outstanding benefits to our customers, employees and shareholders," said **Tunç Doluca**, President and CEO of Maxim.



Vincent Roche is President and Ceo of Analog Devices



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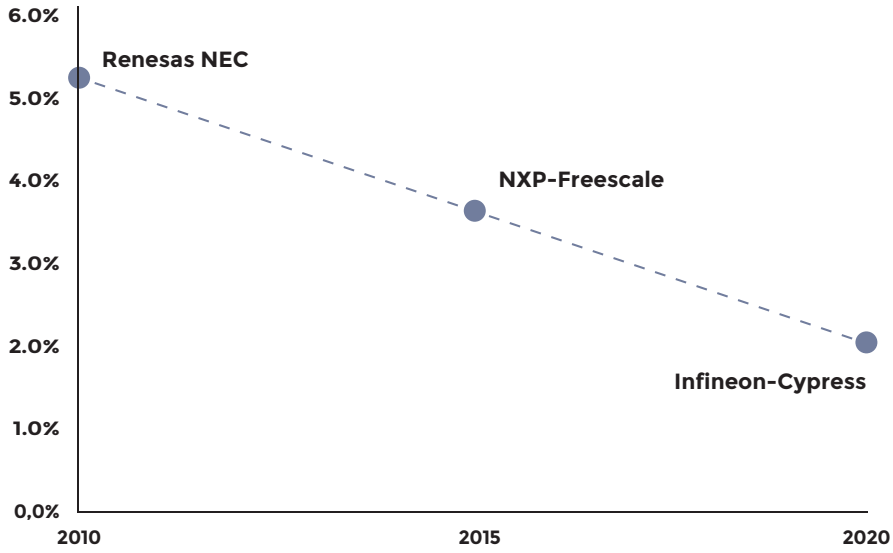
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MERGER & ACQUISITION

Automotive: all in search of "pole position"

THE ABILITY TO CREATE A CREDIBLE GAP BETWEEN RIVALS THROUGH ACQUISITION WILL BE INCREASINGLY DIFFICULT FOR AUTOMOTIVE SEMICONDUCTOR VENDORS WITH THE MARKET SHARE ROI (RETURN-ON-INVESTMENT) FROM M&A (MERGER AND ACQUISITIONS) EFFECTIVELY COMING TO AN END. The **Strategy Analytics** *"The Changing Face of Automotive Competitive Landscape Dynamics"* analyzes the largest and most significant mergers and acquisitions in the automotive industry, with particular focus on semiconductor vendors, as well as looking at some of the major Tier 1 activity. The **Renesas-NEC** merger started the last decade, allowing Renesas to command the top spot for several years before **NXP**'s acquisition of **Freescale** changed the rankings in 2015. Moving into the next decade, **Infineon**'s acquisition of **Cypress** will again change the rankings at the top. With each of these deals, the resulting entity has been able to leapfrog rivals to the number one spot, but the ability to create a credible gap between rivals through acquisition will be increasingly difficult as the market share ROI from M&A exercises drops to zero. *"We shouldn't expect the current round of M&A activity, e.g. ADI buying Maxim, to result in a demonstrable shift in the top tier of automotive semiconductor vendor share rankings."* notes **Asif Anwar**, report author. *"They do validate a focus on capturing capabilities to capitalize on automotive industry trends related to connectivity, electrification, autonomy, infotainment and mobility services,"* Anwar continued, *"The transformation from an automotive supply chain to a value network is evidenced by OEMs looking to work directly with companies that can provide strategically vital capabilities, and this will be the focus for future M&A activity. Whether the transformation from an automotive supply chain to a value network becomes a permanent fixture will dictate which future partnerships, mergers, acquisitions and divestments create the next major seismic shift in the automotive competitive landscape."*



Merger & acquisitions in the last 10 years in the automotive sector
(source Strategy Analytics)

SMART HOME

Smart speakers are growing also in the second quarter

Global sales of smart speakers in Q1 2020 reached 28.2 million units, an increase of 8.2% on Q1 2019, according to new research from **Strategy Analytics**. **Amazon** remained the leading brand with a share of 23.5%, up from 21.5% in the same period a year ago. Google retained second place with a 19.3% share, compared to 17.9% in Q1 2019. The global shares of Chinese vendors Baidu, Alibaba and Xiaomi all decreased as they faced supply and demand challenges in the Chinese domestic market as a result of pandemic-related measures. In Q2 2020, however, Chinese supply chains have been returning to normal and the Q2 shares of Chinese vendors will rise again. At the same time Amazon and Google will come under pressure because of the impact of lockdowns in North American and European markets.

Information and Opinions about the Electronics Market
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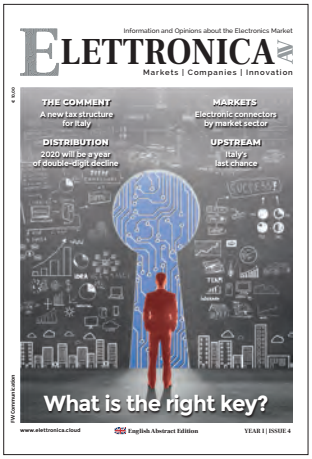
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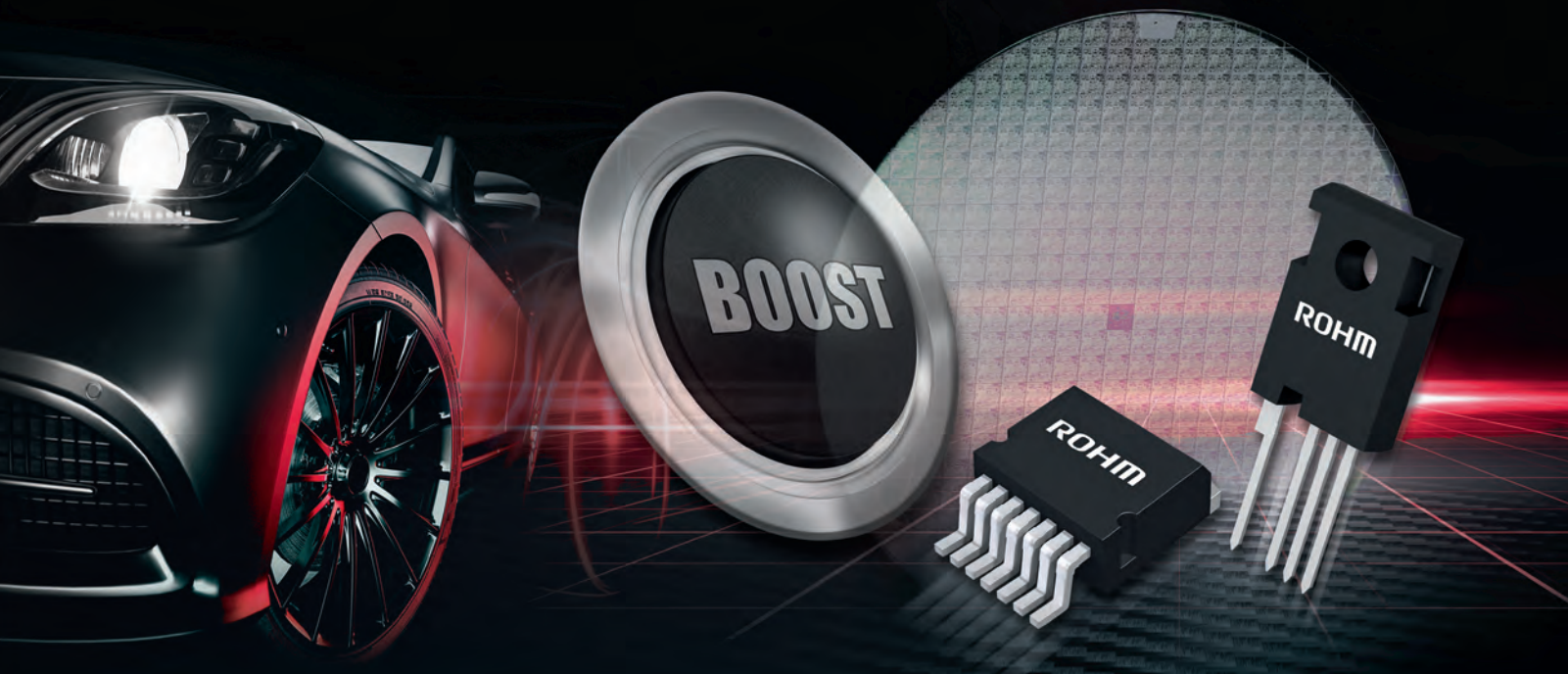


IN-DEPTH

This is a rare moment for Italy. A moment of great opportunity but also of great risk. Every medallion has its face. With the European Recovery Fund ready to be disbursed as from early 2021, and with some of the total of 209 mld in European grants and interest-free loans available upon request even this autumn, Italy has some big decisions to make.

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