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TO GAIN INTERNATIONAL VISIBILITY, **ELETTRONICA AV** HAS BEEN ENRICHED WITH A SPECIAL "**ENGLISH ABSTRACT EDITION**", PUBLISHED AND DISTRIBUTED IN DIGITAL FORMAT. CONTENTS ARE CAREFULLY SELECTED ACCORDINGLY TO THE MAIN TOPIC-AREAS: ELECTRONICS MARKETS, COMPANIES AND INNOVATION.

ELETTRONICA AV "ENGLISH ABSTRACT EDITION" IS AIMED AT EUROPEAN INTERNATIONAL CORPORATE MANAGERS, MARKETING AND SALES, BUYERS, CONSULTANTS AND ELECTRONICS PROFESSIONALS.



6 «Indecisions, postponements and delays are wreaking havoc on an economic situation that in Italy was already difficult»



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by Fritz Walter

“Nothing Left to Do But Cry”

It may seem contradictory of me to have chosen for this publication to title the editorials after movies that have left an indelible mark not just on me, but on so many others. And yet, not even in the most futuristic and catastrophical Hollywood blockbuster could I have imagined two months of quarantine, the powerless feeling Covid-19 and consequent restrictions have left on the world. Everything that seemed unimaginable has come true and, through measures ranging from justifiable to debatable, made its way into our lives through television appearances by the Italian Prime Minister Conte, self-certifications and decrees that have deprived us of our most basic freedoms. With the subsequent lockdowns put in place by the 5-Star party government (met with silence by the PD party) how could we not imagine that businesses across Italy would suffer a dramatic decline?

So here we are faced with the negative figures reported by Istat (the Italian Institute of Statistics) at the end of April: “2020 Gdp at -4.8%” compared to the same period last year. That’s putting it mildly and leave it to a State-run institute to sugarcoat reality in an effort to keep the peace. Here are some more: from the “optimistic” figures reported by Confindustria (-6%) to the “catastrophic” forecasts of the European Commission (-9,5%), according to which Italy could lose up to €170 billion this year alone. In what has been called “the worst crisis since WWII”, the International Monetary Fund expects the Gdp for 2020 to fall -9.1% and declares that “Italy is at the bottom of the rank among the G7.” Basically, the Italian economy risks suffering a loss comparable to the entire Gdp of Veneto, one of Italy’s most affluent regions. To that any Venetian worth ending:

“Ma và in mòna!” (“Go to hell!”). Cut to the tears of distributors, manufacturers and Ems providers who, after cleaning up in 2019, never expected in this unlucky leap year to risk a fall in revenue by 20-30% over last year. And what solution does the Italian government offer? Besides the usual cascade of billions of euros thrown at passive policies came the now infamous bomb announced on live television by the Prime Minister: €400 billion (of solid guarantees?) in private bank loans offered to Italian companies and payable in instalments over six years and at favourable interest rates. Practically an infomercial to pay for the avalanche of tax payment forms expected in the coming months. Genius!

This brings me to the title inspired by the masterpiece by Benigni-Troisi. For those who watched the movie, from the quarantine imposed by Savonarola-Conte with doors and windows suddenly closed, an image that mirrors the modern “lockdown”, to Vitellozzo, the butcher arrested because he wanted to open a shop. Not unlike the countless fines given to those who disregarded the ban and dared to leave the house; from the famous “fiorino” (money used in Medieval times), virtual tax paid by everybody every time they passed customs, to a bizarre Leonardo Da Vinci (representing the 450 brains used by the numerous task forces convened by Prime Minister Conte), a genius of undisputed skills but able to lose his way during a friendly game of cards.

Let’s face it: we need to brace ourselves for the sh**tstorm that lies ahead, but as the legendary Italian singer Fabrizio De Andrè sang: *“Nothing is born from diamonds but flowers are born from manure...”*



WRITTEN,
DIRECTED AND INTERPRETED
BY ROBERTO BENIGNI
AND MASSIMO TROISI
IN 1984, THE MOVIE,
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by Alan Friedman

The “New Normal”: after Covid nothing will ever be the same again

In the pages of this issue of Elettronica AV I have tried to look beyond the Phase 2 of the economic and social re-opening of Italy. I have tried to explain why I believe we will see a “paradigm shift” throughout the Western world, and a new blend of technology advances, changing social habits, changing ways of doing business and changing ways of schooling our children, just to cite some of the more obvious examples.

There is both good news and bad news in the new world that awaits us. I try to see the glass as half full even though as an economist I fear a lengthy period of economic devastation, a slow recovery, and structural damage to at least a part of the industrial fabric. And yes, I know that some people will worry, correctly, about new infringements upon our privacy and our civil rights, that will result from enhanced electronic surveillance of our lives, even if some forms of this monitoring will be necessary to enhance tracing of sick people and help society cope with the risks of a second outbreak of the contagion.

As a human being, I believe that some of us will emerge from the Covid crisis perhaps beginning to understand better what we consider to be “essential” and what we consider to be “luxury” and what we consider to be

superfluous. Not everyone, but some of us. This is not merely rhetoric. I truly believe that following the collective trauma of Covid, just as it occurs after the shared trauma of a war, we may all become a bit more humble, a tiny bit more appreciative of some of the simpler things in life, like family, friendship, clean air to breathe, and who knows, maybe even more respect for our environment and for human rights. Or perhaps I am too romantic in my aspiration. Time will tell.



Alan Friedman, journalist, writer and economics expert

As for the entrepreneurs, some will fail, some will not be able to resist, some will not get sufficient financial assistance from government programs or European programs despite the promises.

Others will be able to come back at various speeds, some faster and some slower, and a few, especially those whose business depends on

e-commerce or home delivery or crisis management, or pharmaceuticals, or food, or new forms of protective clothing, will emerge with major gains in revenue and profitability terms.

What is clear to me is that our lifestyles, our ways of interacting and our ways of working and living and learning and playing will change. We will be living in a new world, with a “new normal” and nothing will ever be quite the same again.

Starting anew with no more time to waste

Indecisions, postponements and delays are wreaking havoc on an economic situation that in **Italy** was already particularly difficult.

by Rossano Salini

According to Greek historian Thucydides, one of the main virtues of politicians is the ability to capture and take full advantage of doing the right thing at the right moment: *kairòs*. A definite time or critical moment of sorts in which men with decisional responsibilities in politics and the military must know how to use their intervention abilities to determine future events.

A lesson that seems to have eluded virtually all of the decision-makers during the dramatic events of the Coronavirus. Now more than ever, irrespective of whatever decisions have been made, the factor of time has become crucial. And yet, from Italy to Europe, we have witnessed a dance of indecisions, postponements and critical delays that are wreaking havoc on an economic situation that in countries such as Italy was already particularly difficult even before the pandemic.

The European level

The first level at which it would be necessary to take quick, decisive action in support of the serious economic crisis resulting from the Coronavirus lockdown is the European one. The latest decision to institute a so-called “Recovery Fund” seems to be a step in the right direction. But steps such as these have been, as already noted, painfully slow. The crisis began in late February and any effects will be seen, at best, in June. A remarkably large time lag that is wholly inadequate to the gravity of the times in which we are living. What has brought about these delays and what will be the outcome of so much confusion and uncertainty? Some of these glitches can

be ascribed to a sort of nationalist egotism, whilst others stem from hindrances and “hiccups” of an ideological nature. Both are serious. Led mainly by States of the German-Nordic bloc (paradoxically the ones labelled “Europeist” have actually been the greatest defenders of national interests over European solidarity) has placed too many restrictions on any real form of action and created unacceptable delays. Delays also caused by ideological “hiccups” resulting from those who jump out of their chairs at the mere mention of Esm (*European Stability Mechanism*), regardless of the conditions underlying this measure, especially if one considers the revisions made since the previous Esm. There is only one viable avenue. We must focus solely on the objective content of the measures to be put in place and realize that if even one European country is crushed by this crisis, the others will also pay the consequences. If we do not understand the value of solidarity among States, we need to at least consider the issue in terms of cost-effectiveness and farsightedness.

Measures put in place

Four main measures have been put in place at European level, and all of them are economically-driven. The “new” Esm created using funds earmarked for the healthcare emergency gives up to 2% of Gdp in lending: for Italy about €36 billion; a plan by the Eib in support of economic relaunch projects with a budget of some €300 million, but we won’t know for certain until June; the “Sure Fund” offering €100 billion at almost zero interest to support unemployment; and, lastly, the real novelty, the “Recovery Fund”, the new version of the much discussed Eurobonds, or

more simply, put bonds issued to finance investment, guaranteed by the EU and not the single States and payable within 30 or maybe even 50 years. The call is for over €1 trillion, maybe even €1.5 trillion, but we won't know this until June either. Two key elements emerge from this scenario. First, attacking the Esm as if it were the devil is frankly ridiculous, given the global figures we are dealing with. Italy must get its hands on €500 billion or it will go bankrupt, and here we have been arguing for weeks over whether or not to accept €36 billion from the Esm. Absurd.

Second, a clear framework of the financial terms will not be available until June. This weakens everything terribly. The steps taken on paper are all good and some could even be excellent but the delays are causing us to waste precious time. And in the meantime, many businesses will go bankrupt.

The Italian situation

Recognizing the importance of time also helps us understand the seriousness of the Italian situation. Starting from the fact that the general crisis is a direct result of Italy's decision to impose the strictest and longest lockdown of any other Western country, a measure that we all willingly accepted, but that had one important drawback. We were forced into this situation because in the beginning, when in January it was known that something serious was coming out of China, no one made any consequent decisions. No healthcare plan at all worthy of this name, but simply the decision to have everyone shelter in place. In 2020 we made the same decisions as the ones made in response to the plague in 1600.

And then the dance between "phase 1" and "phase 2", at the expense of Italy's economy. Two phases that should have immediately been conceived together, with clear protocols and timely strategical planning, and not with the intervention of a task force set up already two months into the lockdown. We witnessed action that was delayed and for the



most part strongly debatable, like the measures relying on Ateco codes (economic activity), which might have been useful 20 years ago but in today's interconnected economic environment are woefully obsolete. Basically, a mishmash of incomplete, inappropriate or out-of-date actions.

Time was of the essence

If we go back to the start we see that the notion that time was of the essence – a crucial notion – was the most disregarded aspect of this phase, at every decisional level. As we well know, time was the culprit of this entire global health crisis. China's delays in making any decisions and slowness in communicating the severity of the situation helped trigger the pandemic. The Who was also to blame, revealing itself to be wholly inadequate. Now we know that safely reopening companies is a shared priority, especially for companies and the manufacturing sector as a whole. Unfortunately, the prospects ahead of us as a result of the indecision at domestic and EU level are anything but reassuring. We face serious, and in some cases very serious, consequences because of this situation. Hopefully it will be a wakeup call for decision-makers.

Instead of timely action, there is bound to be a race against the clock to salvage the salvageable. Let's hope we at least learn from this experience and that this absurd and tragic state of affairs will serve as a lesson for tackling similar future scenarios. **E**



A new paradigm awaits us

How will the world change during and after Covid-19?

Each of us will become a Start-Up, we will all have to re-invent ourselves.

by Alan Friedman

And so, we are here, finally we have arrived in the famous Phase Two of the Covid crisis. The partial re-opening of the Italian economy, like the partial re-openings that are taking place in other European countries, and in the United States, is full of risk and opportunity, full of danger and at times with plenty of confusion as well.

But while the politicians and the experts parade around the television talk show circuit, contradicting each other all too often, and while the presidents of some regions fight with the government in Rome and also with the leaders of other regions (frequently in an unedifying manner), while millions of Italians complain about the lack of a schematic and linear set of rules, or about having to wait too long and to endure too much bureaucracy to get much needed liquidity for Small Medium Businesses or for workers and self-employed to receive their lay-off or an emergency income, it is time to look beyond the here and now.

Beyond Phase Two

It is time to look beyond Phase Two and to try to understand the enormous and epochal changes which await us and the ways that our lives will change, the ways that the entire world will change. After Covid nothing will ever be the same again. We will not re-

turn to the “Old Normal”. There will be a “New Normal” in economy, job, education, sport, entertainment, fashion, in our daily social life, in the way we go to restaurants, go shopping, use technology, protect our environment, develop the green economy, and much, much more. There may even be changes in the way we view some of the most basic premises about basic human values, which would be a good thing. Will there be more or less social equity, more or less income inequality? We do not know. Will the certainty of a deep global recession be transformed into something worse? Possibly, but we hope not. Will the industrial fabric of Italy suffer deep and lasting structural damage? Probably, but we do not know how bad it will be. How many SMBs will not be able to resist and will go bankrupt? A number that is probably larger than we expect. How will we educate our children? With social distancing, but we don’t know how yet. Will university curriculums change as a result of the need to learn new skill sets? Probably yes. Will political extremism and populism come back to haunt us after the Covid crisis is over? Maybe.

The economic scenario

So many questions, so few clear answers. But let me try, with humility, to offer a few reflections. First of all, yes, the economic damage will be vast, and the

recovery will be slow. We will see a period of at least 18 to 24 months before we even get back to anything resembling a normal and functioning economy. After a crash of the Italian Pil of around ten percent in 2020, the recovery in 2021, even if it is a year of 5 percent GDP growth, is unlikely to restore even half of what is lost. The moment of truth will come in 2022 when we will see if we will return to a pre-Covid GDP level in two or three years or if we will see a repeat of the phenomenon of 2008-2009, when it took a decade for us to even approach the 2007 level of GDP. If a second wave of Covid strikes in the autumn of 2020, or the winter of 2020-2021, meaning before a vaccine is approved and produced and widely distributed, then we could see a “W” shaped economic cycle, or, as the economists call it, a “double dip” recession.

Changes in social life

As for the rules on gatherings, that affect many aspects of society, from bars and restaurants to football matches and concerts, let me quote the words of Jan Dalley, the Arts Editor of The Financial Times: “Even if regulations were eased, and your local theatre or your favorite music festival were reopened tomorrow, would you really go to it? How long do you think it will be before you want to jostle in a crowded theatre or bar, dance in a tiny disco floor, queue for a sandwich or be coughed on by your neighbor?”

Some of the changes brought about by Covid will probably become permanent features of society. Smart Working or Home Working will probably con-

tinue for at least a part of society. The traditional and important trade shows that allow companies to showcase the best in Made in Italy from fashion to machine tools, may not ever return to the old ways, or only in part. Digital platforms and virtual showrooms and e-commerce will probably become a more “normal” part of exporting. Even a new aesthetic sensibility may arrive in terms of Italian fashion and design, and sustainability will become more important as will a less ostentatious view of luxury goods. In other words, it is conceivable that in a number of areas we will see big changes, forced on us by the fact that our old habits will not return until a vaccine is not only developed but also distributed to at least 70 or 80 percent of the population. And that could take until the end of 2021 or even into 2022.

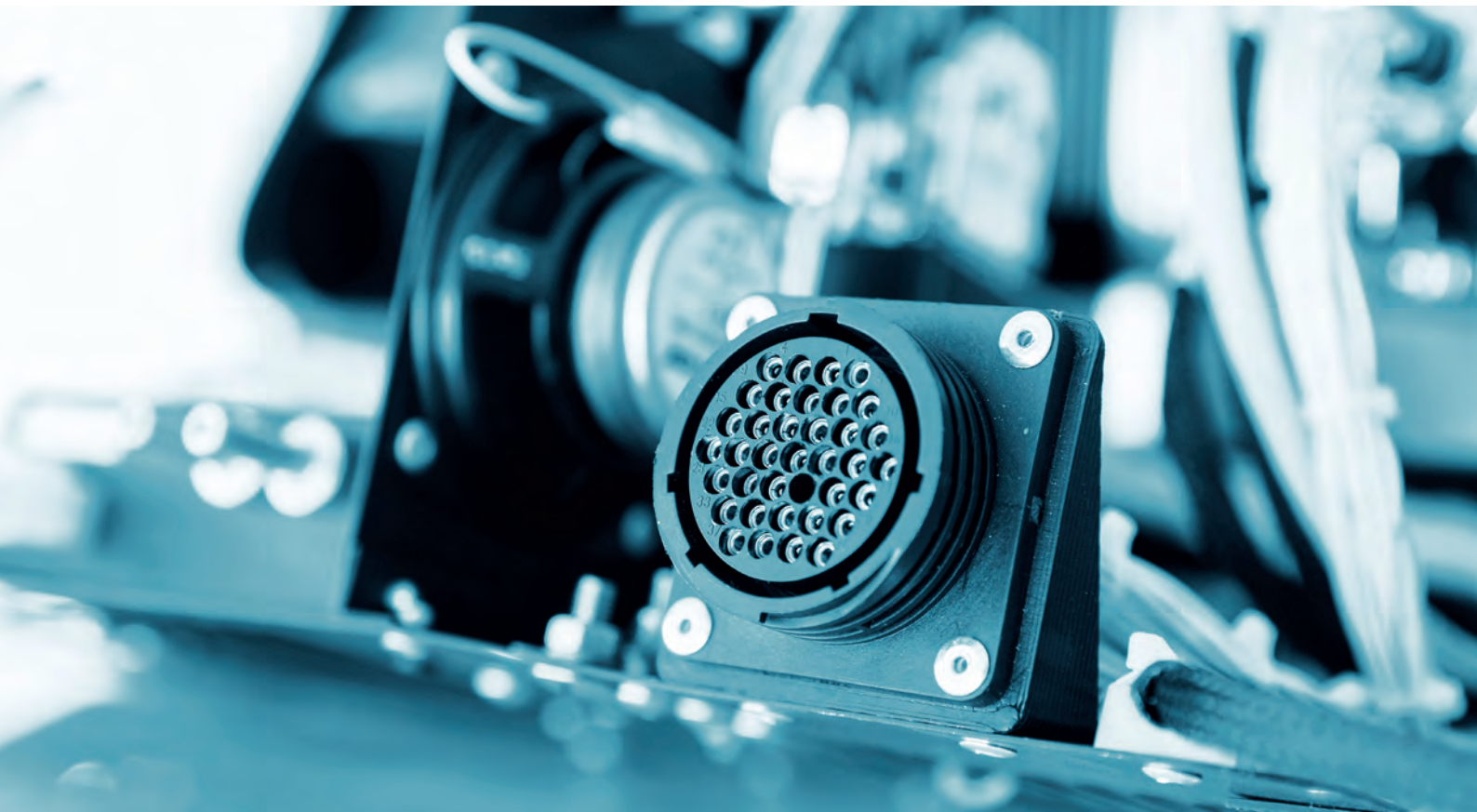
Risks and opportunities

In terms of the economy, the organization of society, the utilization of technology and in many ways Italy, along with the entire western world, may make a leap forward over the next 18 to 24 months that would normally take 10 or 20 years to occur. We are about to witness a shift in the plate tectonics of Western society, some of it good, some of it bad. The only certainty is that a paradigm shift is coming. And in some ways, yes, this could lead to more meritocracy. If each of us will essentially be forced to reinvent ourselves, our lives, our businesses, our vision of the world, then perhaps each of us will have to become a “start-up”. And that opens up the prospect of great risks, and also of great opportunities. 

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. He conceived and hosted several Rai Tv shows, cooperated to the creation of Rainews24 and in 2003 he worked with Robert Murdoch to the kickoff of Sky TG24. 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.





Virus, crisis and connectors

The economic impact of **Covid-19** on the world **connector industry** will be strong. **2020** is expected to close with an estimated decline above 30%. Even in **2021** we will not return to the 2019 values.

by Ronald Bishop

How long will the pandemic last? How fast will world economies recover once the pandemic is over? What will be the economic impact on the connector industry?

These are big, important questions that have no clear answers. However, one can postulate by analyzing past performance in downturns and developing assumptions on what might happen next.

In the two most recent downturns, connector industry sales declined for up to six consecutive quarters. The sales declines were in the high double-digits, with the worst quarter (Q109) down -35.6%.

A look at the old crisis

Connector industry sales declined -18.8% in 2001 and -6.8% in 2002. At the time, this was the worst downturn the connector industry had experienced since Bishop started tracking industry performance in 1980. The downturn lasted five quarters, the longest contraction in connector industry history. Following the downturn, connector industry demand came back strong, growing +11.4% in 2003. Undoubtedly, the H1N1 pandemic had some measurable effect on the global economy. However, it paled in comparison to the financial crisis's devastating

impact. This downturn lasted only four quarters but produced the two worst quarters in connector industry history (1Q09: -35.6% and 2Q09: -32.1%).

Interesting observations

- In 2001, sales declined -18.8%, followed by a 2002 decline of -6.8%. The downturn lasted five quarters (three quarters in 2001 and two quarters in 2002). The worst sales decline was -30.9% in 4Q01.
- Sales rebounded +11.4% in 2003 and +18.0% in 2004. The industry achieved growth in the six consecutive years following the dot-com downturn.
- During the 2009 financial crisis, industry sales declined -21.8%. This downturn lasted only four quarters, but it resulted in the industry's historical worst year and worst quarter (2009: -21.8% and 1Q09: -35.6%).

Forecast assumptions

The following are the assumptions we are using to develop the connector industry forecast.

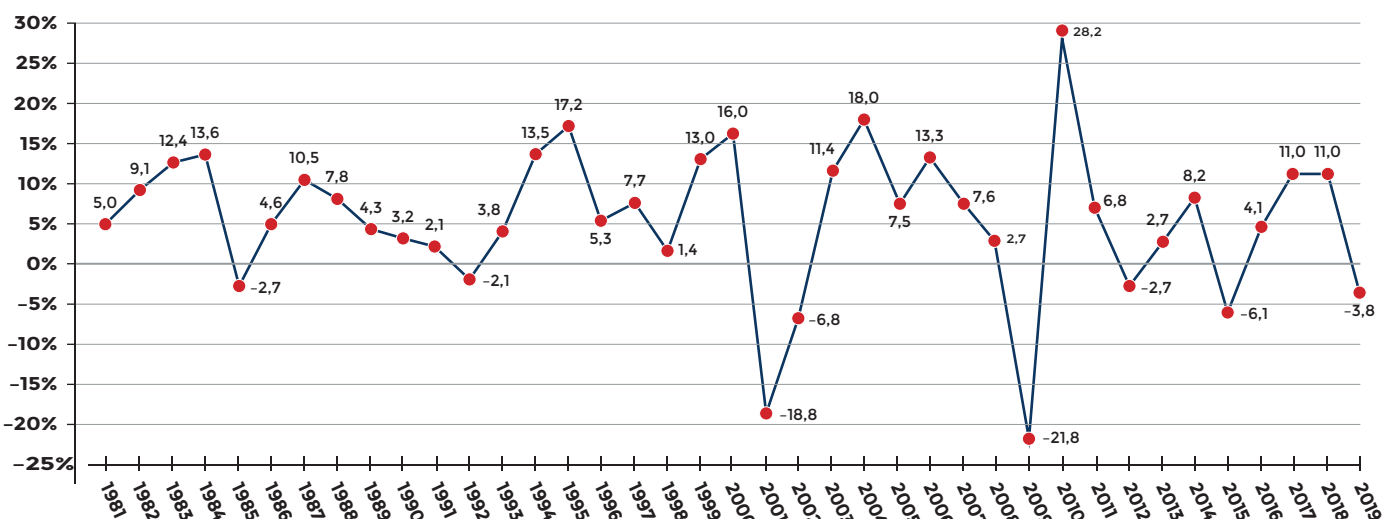
- The Covid-19 pandemic will mostly be over in the July/August timeframe.
- In the interim, critical/essential industries will continue operations (i.e., trucking, food production and distribution, medical, infrastructure etc.).
- Other industries (shopping malls, restaurants, beauty salons, barbershops and other nonessential businesses) will start to slowly come back into operation in May and June. In the US, this will vary by state,

county and city.

- World economies will recover slowly throughout the second half of 2020. We expect a U-shaped and not a V-shaped recovery, meaning that it will take the second half of 2020 and all of 2021 to reach previous levels of demand.
- There will be some pent-up demand for lower-priced consumer goods (mobile phones, televisions, appliances, laptops etc.) in the second half of 2020.
- Consumers will be very conservative with big-ticket purchases, such as cars, boats, recreational vehicles, pickup trucks, vacations etc. We expect demand for these products will not ramp up until 2021.
- Recovery will be uneven by geographic region, country, and market sector and will not return to previous demand levels until the second half of 2021.

Assumptions by quarter

- **1° quarter 2020 | -0,9%** - January and February connector sales were good, growing +0.7% year-to-date. Industry executives advised that orders in the first two weeks of March were also good. However, social distancing and the closures of non-essential businesses started in mid-March. As a result, we believe that the second half of March resulted in a significant enough decline to make the full quarter slightly negative. The connector industry will record a sales decline of -0.9% in 1Q20.
- **2° quarter 2020 | -70,8%** - The US has been ordered to shelter in place through the entire month of April.



World connector market year-over-year growth 1980 - 2019
(growth in %, source Bishop & Associates)



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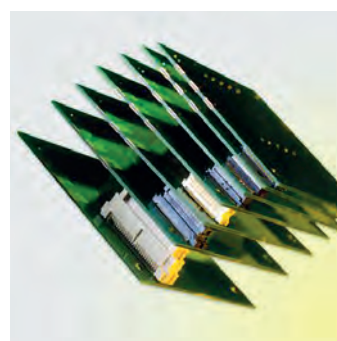
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MARKETS CONNECTORS

QUARTER	2019	2020	20vs19	2021	21vs20	Q/Q-1
1°	15,890	15,750	-0,9%	14,800	-6,0%	-3,7%
2°	16,097	4,704	-70,8%	15,190	+222,9%	-2,6%
3°	16,475	10,033	-39,1%	15,640	+55,9%	-2,6%
4°	15,707	13,900	-11,5%	17,334	+24,7%	-2,6%
TOTAL	64,169	44,387	-30,8%	62,964	+41,9%	-4,8%

Sales forecast, by quarter, for the world connector industry for the years 2020 and 2021 (billion dollar, source Bishop & Associates)

All nonessential businesses remain shuttered. Most major countries are under similar restraints. At this time, we anticipate that the pandemic will not have sufficiently dissipated to allow nonessential businesses to begin normal operations in 2Q20. Instead we are assuming that businesses will start to gradually begin operations in May and June. The result is a business disaster, the likes of which there is no comparison. Connector industry will record a sales decline of -70.8% in 2Q20.

• **3° quarter 2020 | -39,1%** - We are assuming that nonessential businesses will begin operations in July and ramp up to near-normal capacity throughout July, August, and September. Connector industry will record a sales decline of -39.1% in 3Q20.

• **4° quarter 2020 | -11,5%** - All businesses that can reopen will begin full and normal operations throughout 4Q20. We are assuming that Covid-19 will not return in a way that would cause major disruptions in business activity. Connector industry will record a sales decline of -11.5% in 4Q20. Full year 2020 sales will decline -30.8%.

• **1° quarter 2021 | -6,0%** - Assuming no COVID-19 disruptions, businesses are back to full normal operations. Demand is returning for consumer goods, including big-ticket items such as automobiles.

• **2° quarter 2021 | +222,9%** - Businesses are recovering and Covid-19 is becoming a bad memory. The consumer is becoming more optimistic. A Covid-19 vaccine has been developed.

• **3° quarter 2021 | +55,9%** - Businesses are fully recovered.

• **4° quarter 2021 | +24,7%** - Connector industry achieves full-year growth of +41.9%.

Forecast 2020-2021

We forecast 2021 connector sales of \$62,694 million, up +41.9% over 2020. However, it is important to understand that 2021 results are \$1.2 billion below the \$64,169 million achieved in 2019. Our intent is to closely monitor the accuracy of our assumptions and recast the industry forecast as facts change. 

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.





Growing concern in the hi-tech sector

Tech companies are bearing the brunt of the harsh economic effects of the **Covid-19 emergency**. According to **Federazione Anie** the lockdown has affected 80% of the electrotechnical and electronics companies that generate 73% of aggregate turnover.

by Laura Reggiani

In representation of Italy's entire electro-technical and electronics industry and from the early onset of the Covid-19 pandemic, **Federazione Anie** has worked effectively in concert with the Italian government, regional institutions and **Confindustria** (the Italian entrepreneurial association).

Its contribution entailed urgent action to contain the virus, measures in support of companies and economic activity and steps to protect the industrial sector

A drastic reduction in orders

Considering the effects of the crisis on high-tech companies, **Giuliano Busetto**, President of **Federazione Anie**, explains: *"It's difficult to quantify with any certainty, given that we cannot predict how long and to what extent the virus will be with us, but an estimate of the effects it will have on our companies has been evident since early March, when we saw a drastic reduction in orders."* Indeed, an analysis by Centro Studi Confindustria

THE COMMENT

« **STRONG CONCERN** FOR THE LOCKDOWN OF PRODUCTION SITES.

WE EXPECT A MORE DRASTIC DROP IN THE COMING MONTHS. WE HOPE FOR A QUICK BUT GRADUAL RESTART FOR ALL THE SUPPLY CHAINS THAT CAN GUARANTEE SAFETY CONDITIONS »

GIULIANO Busetto, PRESIDENT OF FEDERATION ANIE

has shown that 70% of the electrotechnical and electronics companies surveyed have reported a negative effect on operations, with a significant impact on the acquisition of productive input and on demand.

A report issued by Servizio Studi Anie on Istat statistical data reveals that the lockdown affects 80% of companies in the sector with 73% of aggregate turnover and 76% of employees.

“Unfortunately”, continues Busetto, “we expect that the 70% estimated in the Confindustria analysis will likely increase, even considering the data recently reported by Centro Studi Confindustria predicting that in the first half of this year our Gdp will fall by 10 percentage points”.

In this respect, Busetto has expressed deep concern and has asked the government to engage in a more continual dialogue with Federazione. The companies associated with Federazione Anie are the ones that better than anyone can help illustrate how sectors are in fact structured, given that they are providers of technologies used in the industrial, energy, transportation and infrastructure industries.

To this end, Anie sent a letter to the government highlighting the difficulties in access to PPEs and requesting a simplified procedure for companies to enable them to operate safely and ensure the health and safety of their employees. “It is important to keep companies operational and, in a later phase, help them restart in full swing to revitalize the industrial productivity of the country,” noted Busetto. Lastly, Busetto underlined the importance of financial support to all companies: *“Our companies are leaders in technological systems and solutions made in Italy and to keep them from falling victim to the crisis, we need extraordinary measures to guarantee liquidity. From immediately suspending tax and contribution payments to stepping up the Guarantee Fund to support SMEs and mid-caps.”*

February's fall in production

According to Istat data, February marked a fall in production in the Italian tech industry. In February 2020, compared to the same month in 2019, the sector fell by 0.1% (-1.9% over the national average in manufacturing). Compared to January 2020, the sector saw a 2.9% drop (-1.0% over the national average in manufacturing).

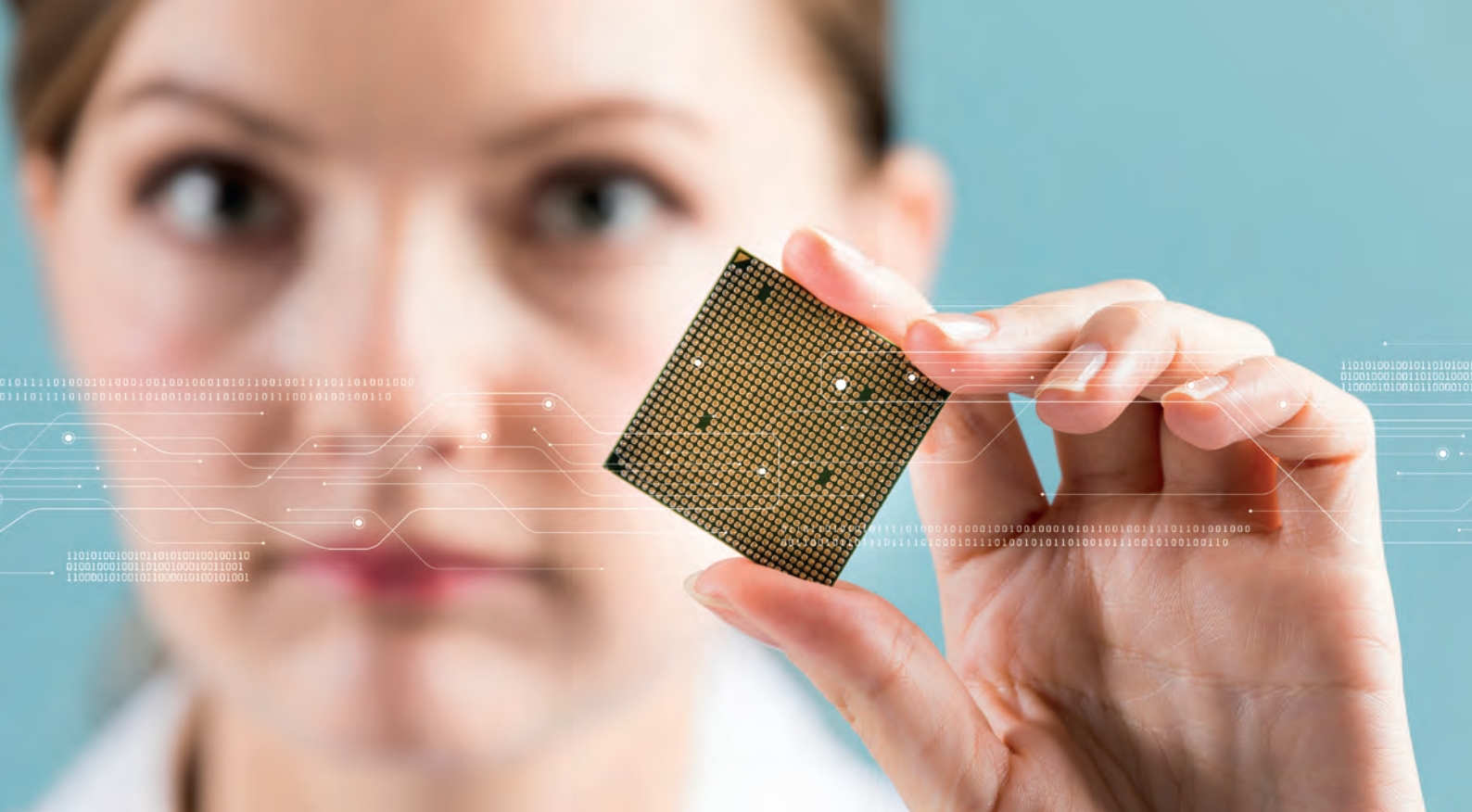
“If in February industrial production was already markedly negative, today, the Covid-19 outbreak in Italy and principal foreign markets has significantly worsened the scenario”, concludes Busetto. “The health emergency currently underway and the consequent mitigation measures have shocked the economy in terms of both demand and supply in that consumption has plummeted and production is at a near standstill. There is strong concern even in light of the closings of the production sites, because of which we expect an even more drastic fall in production in the coming months. We hope for a strong albeit gradual recovery for all sectors able to guarantee safe conditions. At this time, however, it is imperative to ensure companies have liquidity to keep the financial system resilient and make recovery possible. Immediate action must be taken to avoid a crisis of no return for companies that were already struggling during the early months of 2020”.

SECTOR	Feb20 vs Jan20	Feb20 vs Feb19
Manufacturing Industries	1,0	-1,9
Hi-tech Industries	-2,9	-0,1

Italian hi-tech industries production

(% of change, volume data).

Source: Anie based on Istat data)



The semiconductor industry needs women

A research by **Semi** and **Accenture** examines the **Gender Gap** in the semiconductor industry and the benefits of closing it.

by Virna Bottarelli

Although studies have clearly shown that gender diversity in the workforce leads to improvements in innovation and company profits, female employment is still a sore point. “Sponsorship of women drives innovation and improves organizational performance” is a study by **Semi** and **Accenture Research**, which examines the Gender Gap in the semiconductor industry and shows the benefits that would come by closing it. It focuses in on the power of sponsorship programs to give women more opportunities to grow into decision-making roles and highlights best practices companies in the semiconductor industry and others can adopt today to achieve those benefits long-term. As shown by an investigation of tens of thousands of workers in US,

women-led companies tend to engender mission-driven cultures, strong top-down communication, and strategic compasses pointing in the right direction. Studies also show that diversity at firms leads to better financial outcomes, and that women investors are more likely to invest in companies with female founders. There are also many intangible benefits to a gender balanced and inclusive workplace, for instances: higher levels of job satisfaction, individual validation and a greater sense of community among peers.

Lack of women in technology

The technology industry is one area where gender diversity can be improved. While 47 percent of today’s workforce

are women, they represent just 25 percent of US IT workers. One explanation is the educational path women are choosing for their undergraduate degrees, though the divergence from Stem subjects begins well before women enter college. While 57 percent of college graduates are women, men remain twice as likely as women to study engineering with only eight percent of female undergraduates pursuing IT degrees and a mere eight percent becoming engineering graduates. Few major semiconductor companies are led by female CEO. **Advanced Micro Devices** is one of them: **AMD's CEO, Lisa Su**, has steered a remarkable turnaround for the company as she continues to navigate the male-dominated semiconductor industry. Upon becoming CEO, Su was able to kickstart growth acceleration, demonstrating substantial year-on-year revenue growth since 2016.

Several global semiconductor companies are dedicated to improving these statistics. Among these ones there is **STMicroelectronics**, which offers two training sessions a year for more than 200 women to develop into future leaders, and they also have specific quotas for visiting universities and schools to promote the recruitment of women and people with disabilities. Nevertheless, men are far less likely to perceive that gender inequality exists at their organization and this gender bias can result in unequal pay, unequal opportunities for advancement, differing interview questions during the appraisal and recruitment processes and other glass ceilings being placed above female employees. To combat this, technology organizations must implement relevant mentorship and education programs.

Sponsorship and mentorship programs

Gender disparity starts early on; young girls do not have equal access to mentors and sponsors that might encourage them to enter into Stem fields. To be successful, sponsorships should start in grade school and continue through university.

More young women entering STEM-related industries may lead to the natural progression of sponsorships within companies where the focus can be on retention and career growth. At the corporate level, there are a variety of programs that semiconductor companies can leverage to promote the advancement of women throughout their organizations. These programs consist of both mentorship and sponsorship initiatives. Mentors can guide and coach developing professionals, while sponsors can use their clout to advocate for the advancement of their protégé and help them access opportunities to further career ambitions. Several semiconductor companies are already starting to recognize the value of sponsorship programs. Kate Wilson, VP of Marketing for **Edwards** in the UK, is the diversity champion within the company and her role is to educate and enthuse the organization about improving diversity. Edwards has had a mentorship and sponsorship program in place for women employees for the last two years, with the goal of increasing female employees from 19 percent to 30 percent by 2030. **Intel** has structured programs for mentorship, diversity and inclusion, and sponsorship. **Melexis**, founded 30 years ago by two male engineers and one female non-engineer, was profiled by a university in Belgium as an example of how to accomplish gender equality in the workplace.

How to close the gap in the semiconductor industry

In 2018 the semiconductor industry had approximately 10,000 unfilled STEM positions, globally. If companies start breaking down the barriers that have held women back, they can help close the gender gap and address key challenges such as the talent shortage described above. There are many ways to do it: putting in place formal sponsorship and mentorship programs, placing women on their boards, reviewing job descriptions and remove any language biases that may discourage women from applying and, last but not least, instilling a culture of zero tolerance for discrimination. **E**



Heart and positive energy

Digimax: a distributor with added value for its industrial and lighting solutions. As its founder **Massimo Tirapelle** explains, to have success in the market you need to put your heart and positive energy into what you do.

by Laura Reggiani

Digimax is a leading Italian distributor of power supplies, industrial PCs, LEDs, displays and electronic components. Supplying clients with the best integrated solutions through a single supplier, Digimax offers specialized and speedy consulting service at the best value for money. With widespread presence across Italy and coordinated by Project Managers, the Vicenza-based distributor offers up-to-date and detailed consultancy thanks to its almost 25 years of experience on the market, as the company's founder **Massimo Tirapelle** tells us.

Next year you will be celebrating 25 years in the market. Which have been the most important milestones of this journey?

It has been an amazing journey. We started from nothing and have now reached over 4,000 active clients. I have seen the company grow continuously, through joy and a few hardships. I am very proud to have created something really important in the world of electronic distribution in Italy. Along this journey I have experienced the transition from the old system

of electronic distribution to the digital one; it has stimulated us to constantly invent new strategies, to be innovative and stand out among the others. Through this journey I have gained something of great value that has made me want to keep improving: a close-knit team working across various departments with shared objectives and who over the years have grown by merging skills and experiences. In the last ten years we have achieved key milestones and five-folded turnover, from €10 million to €50 million. This growth reached a turning point when we moved to the new headquarter in 2013. A bigger warehouse and an IT system have allowed us to become a logistic hub for our main brands like **Meanwell** and **Advantech**, long-standing partners that have been with us since the very beginning of our adventure.

Digimax group was born from the union of three big companies. How do these companies operate today? Are they totally integrated or do they move singularly?

Over the last five years we have understood that to increase our turnover we need to carry out acquisition

COMPANIES

THE DISTRIBUTOR

policies based on synergies. So, in 2015 we acquired **Velco**, a historical distributor from Vicenza not far from our headquarter. Its main brand was **Citizen Led**, a brand in line with our policy of expansion in the world of lighting and also synergetic to **Meanwell**, **Snappy** and **Colors**. Moreover, we entered the world of lighting control through **Dalcnet**, a local manufacturer with a strong vocation for the design and production of dimmers in the national and international market. In both companies, Digimax brought its own know-how and the organization needed to enable their integration into the group strategy based on the lighting and industrial ecosystem.

What are the strengths of Digimax and which features set you apart from your competitors?

Digimax aims to be a real distributor with added value. To be recognized by clients, value must be created through before- and after-sales consultancy services and by offering innovative products worldwide, like the ones offered by our best partners in the Far East: Meanwell, Advantech and Citizen. To this we provide “Premium” logistic service for high levels of stock and fast delivery support for a real “Just in Time” on a range of products that bear 15,000 different codes. To do this, we have always invested in IT to better manage sales support processes and have increased our “digitalization” in an effort to guide our clients in terms of choosing products and managing orders through inbound marketing strategies that I believe will be the new frontier in the next decade.

You also have your own Academy. What is its function? How important is it for Digimax to have trained and skilled people?

When you manage a sales team with about 30 people and more than 50 product lines, training is essential to offering clients competent service, which we mainly do through our Product Managers. We have around ten PMs in each division and operating in the new lab structure organized into lighting and industrial areas and offering bespoke solutions with specific kits.

In your headquarters in Vicenza you also have a showroom and a lab. Who are these structures for? What advantages do they bring you?

The showroom is a small showcase for our most interesting products updated with the latest technologies in the lighting and industrial ecosystems. As far as lighting, it is possible to manage lighting control

with the Casambi, Dali and Dmx protocols. In terms of industrial, the showroom features embedded solutions with boards or computers fitted with Gateway functions linked to the Internet of Things for remote data collection controlled through I/O devices and Artificial Intelligence solutions, with specific CPUs in the graphic processing, also combined with our line of industrial cameras. Our lab offers a bespoke assembling service tailored to each client, with burn-in activities, cables, mechanical personalizations and software integration carried out by our dedicated team.

Last year you implemented an e-commerce platform. Who uses it and why? What results have been achieved?

The e-commerce platform was created to satisfy the small time-spending requests for the company. Our real objective is to work and protect our key accounts, system integrators and partners to whom we are proposing digital tailor-made services for B2B through a reserved area that enables us to operate autonomously. Our Technical and Commercial team offers special support.



Massimo Tirapelle is founder and Ceo of Digimax

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You have developed the concept of industrial “ecosystem.” Can you explain what that means? What are the main challenges facing the industrial sector?

For us, an industrial ecosystem is a complete supply chain of products applied effectively: embedded PC boards, visualization through indoor/outdoor touch displays, transmission and connectivity with industrial net switches, joysticks, industrial power supplies and wireless sensors. The complete solutions are studied together with the client and our Project Manager and later developed in our lab. The range of applications includes automation, medical, vending machines, machine builders and transportation. The same principle is applied to lighting for lamp manufacturers and retail. The main challenge in this field is development time – months or even years – that requires an array of before- and after-sales activities, with margins that are even tighter between our manufacturers and end clients. Another big challenge is our competition out of Asia which is geared directly at clients. Basically, our objective is to provide a “Premium” service at “Economy” rates.

Power supplies have always been your core business and it seems like it is the only sector that has seen growth in 2019. How is your offering structured? What results have you achieved?

Power supplies have achieved important results in Italy and even for us. Power supplies account for more than half of Digimax’s turnover. Our offering is based on very big stock with a portfolio of thousands of models sold throughout Italy for an array of industrial and lighting applications. While our power supplies are of high quality and cost-effective, these high figures have led to a constant and progressive erosion of our profit margins in domestic as well as international markets, to the point that logistics plays a key role for distribution.

The LED sector has grown enormously over the last decade. What is the situation today? What are the more interesting applications?

The LED market is extremely mature with technologies that no longer have the same wide margins of technical improvement as in the beginning. It is also increasingly competitive given the number of players operating in the market. For instance, Citizen has flanked its main retail market with niche applications, like museums



Digimax's Lab offers a lot of services to customers

and horticulture. In any case, I think remote lighting control is the distinctive element through the use of protocols like Dmx, Dali, Casambi. For this reason we have invested in dimmer manufacturer Dalcnet for these technologies. Dalcnet has in-house design and production departments that work together with Digimax to personalize a number of products. By creating a supply chain of lighting products that are interconnected within the ecosystem concept, we have been able to set ourselves apart within the market and offer true added value to our clients.

How is your company poised for the next five years? Are you imagining new suppliers, new manufacturers and new markets? What will be the future challenges of Digimax?

An entrepreneur like me, who has worked with passion and dedication for years putting his heart and positive energy, cannot be pessimistic about the future. Despite the setbacks caused by the Coronavirus, which took everyone off guard, those who are able to bounce back the fastest will recover and I am convinced that those who have worked well and continue to do so will reap the benefits. Over the next five years I envision Digimax working toward and gaining strength in existing strategies, working with our current key suppliers and, in all likelihood, with new suppliers to be included in the two ecosystems with innovative products and technical and commercial consultancy, adequate stock levels to consolidate long-term relationships with partners and an ever-growing number of key clients.

E

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A Task Force for medical market

Powerbox's Covid-19 Task Force provides strategic business support to medical and para-medical applications.

by Cleopatra Gatti

Powerbox is not only working diligently to reduce the risk inherent to the Covid-19 to the ecosystem, but equally to ensure that its customer support and service continue without interruption.

Powerbox standard and custom power solutions are used in medical equipment such as ventilators, infusion-pumps, remote patient monitoring, anesthesia machines, ultrasound, Mri, mobile X-ray equipment, and many more. Without a Power Supply Unit, nothing works. So the Psu is a critical component in all of these equipments. In close co-operation with its customers, and with the highest level of priority given to maintaining medical equipment whilst maintaining service to all of its customers, Prbx has set up a dedicated "Covid-19 Task Force" to guarantee business continuation during this difficult period.

"Our prime concern is the health and safety of our employees, customers, and partners. That commitment covers everything, from making sure we are doing our part to "stop the spread", to maintaining business continuity so that our customers and partners don't have to worry about theirs. We are operating effectively with most employees working remotely. Maintaining a high degree of safety we have reinforced some of our workforce in European manufacturing facilities; we have implemented actions to scale our operations and meet critical customer demand; and should the need arise, we have business continuity plans that address the potential impact of this crisis. We are confident that we can continue to deliver the highest service levels completed with the care and attention expected by our customers" said **Tatsuo Yamamoto**, Powerbox Ceo.

Alternative solutions

In Europe and Asia the logistic teams are working hard to ensure to get strategic components and sub-assemblies needed to manufacture the much-needed PSUs. In the event of specific component shortages resulting in it not being possible to complete certain products, the R&D and Product Management teams are able to work closely with customers to provide alternative solutions from Prbx or Cosel product ranges. Prbx has expanded its Swedish manufacturing workshop, bringing in additional resources including support from the Prbx manufacturing team at Bremen, Germany.

"We are committed to the highest level of support to our customers, simultaneously helping to protect our community". As an example, Prbx has donated protection masks to the Norrköping hospital in Sweden and its regional offices engaged in local activities.





Artificial Intelligence changes healthcare

Healthcare and medical device workflows are undergoing major changes. In the future, medical workflows will be **Big Data** enterprises with significantly higher requirements for computational needs, data privacy, security, patient safety and accuracy.

by Subh Bhattacharya*

The use of artificial intelligence, including machine learning and deep learning techniques, is poised to become a transformational force in healthcare.

Patients, healthcare service providers, hospitals, medical equipment makers, pharmaceutical companies, professionals and various stakeholders in the ecosystem all stand to benefit from ML driven tools. From anatomical geometric measurements, to cancer detection, to radiology, surgery, drug discovery and genomics, the possibilities are endless. In these scenarios, ML can lead to increased operational efficiencies, extremely positive outcomes and significant cost reduction. Regulatory support is also steadily increasing and the US Federal Drug Administration is approving more and more ML

methods for diagnostic assistance and other applications. The FDA has also created a new regulatory framework for ML based products. This new framework refers to ML techniques as “Software as a Medical Device” and envisions significant benefits to quality and efficiency of care. To support this initiative, the FDA introduced a “predetermined change control plan” in premarket submissions which would include the types of anticipated modifications and the associated methodology to be used to implement those changes in a controlled manner. The FDA expects commitments from medical device manufacturers on transparency and real-world performance monitoring for SaMD, as well as periodic updates on changes that were implemented as part of the approved pre-specifications and the algorithm

change protocol. This framework enables the FDA and the manufacturers to monitor a product from its premarket development to post market performance and allows the regulatory oversight to embrace the iterative improvement power of an SaMD, while assuring patient safety.

Opportunities for ML in healthcare

There's a broad spectrum of ways that ML can be used to solve critical healthcare problems. For example, digital pathology, radiology, dermatology, vascular diagnostics and ophthalmology all use standard image processing techniques. Chest x-rays are the most common radiological procedure with over 2 billion scans performed worldwide every year, that's 548,000 scans a day. Such a huge quantity of scans imposes a heavy load on radiologists and taxes the efficiency of the workflow. Often ML, Deep Neural Network and Convolutional Neural Networks methods outperform radiologists in speed and accuracy, but the expertise of a radiologist is still of paramount importance. However, under stressful conditions during a fast decision-making process, human error rate could be as high as 30%. Aiding the decision-making process with ML methods can improve the quality of result, providing the radiologists and other specialists an additional tool. Validation of ML are today coming from multiple and very reliable sources. In one study a 121-layer CNN was trained to detect pneumonia better than four radiologists.

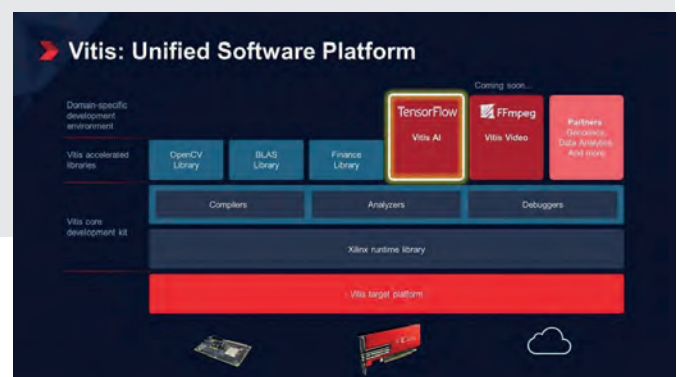
Similarly, in multiple other studies by the National Institute of Health and other organizations, trials around early detection of cancerous pulmonary nodules for lung cancer detection using a DNN model achieved better accuracy than multiple radiologists' diagnosis. Though adoption in digital pathology is slower, multiple algorithm-based detections applied in a study of breast cancer compared well, and sometimes fared better than the prognosis from several pathologists. Similarly, RNN/LSTM based approaches on genome annotation predicted better results on whether single nucleotide variants are potentially pathogenic. Many procedures within radiology, pathology, dermatology, vascular diagnostic and ophthalmology could be on large image sizes, sometimes 5 Megapixels or larger, requiring complex image processing. Also, the ML workflow can be computing and memory intensive. The predominant computation is linear algebra and demands many computations and a multitude of parameters. This results in billions of multiply-accumulate operations, hundreds of Megabytes of parameter data and requires a multitude of operators and a highly-distributed memory subsystem. So, performing accurate image inferences efficiently for tissue detection or classification using traditional computational methods on PPC and GPU are inefficient, and healthcare companies are looking for alternate techniques to address this problem. 

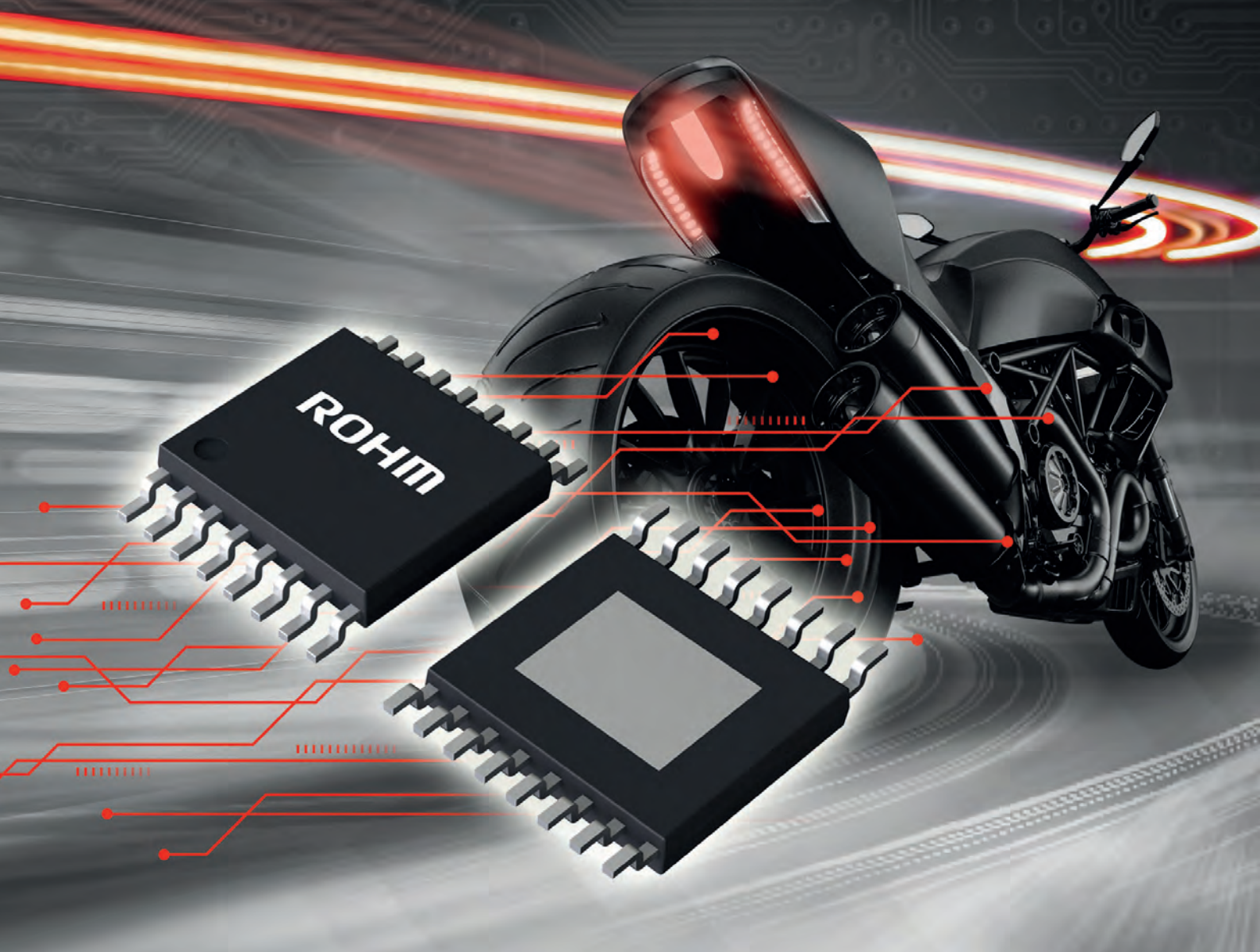
* **Subh Bhattacharya** is Lead, Healthcare, Medical Devices & Sciences at Xilinx.

IMPROVED EFFICIENCY WITH ACAP DEVICES

Xilinx technology offers a heterogeneous and a highly distributed architecture which helps healthcare companies. Xilinx **Versal Adaptive Compute Acceleration Platform** family of System-on-Chips with its adaptable Field Programmable Gate Arrays, digital signal processors, integrated accelerators for deep learning, SIMD VLIW engines with a highly distributed local memory architecture and multi-processor systems are known for their ability to perform massively parallel signal processing of high-speed data in close to real-time. These device capabilities dramatically improve the efficiency of how complex

healthcare ML algorithms are solved and help to significantly accelerate healthcare applications at the edge, all with less resources, cost and power. With **Versal ACAP** devices, support for recurrent networks could be inherent due to the simple nature of the architecture and its supporting libraries.





The best lighting “on the road”

Rohm presents Rear Lamp 4ch Linear **Led Drivers** designed for motorcycles. Reducing board area and design effort for Led lamp applications.

by Cleopatra Gatti

The adoption of automotive-grade Led lamps is advancing in terms of power savings and design flexibility, while the number of lamps and brightness levels are increasing significantly. Vehicle manufacturers demand simpler circuits for rear and license plate lamps in order to reduce costs and shorten development time.

Following market requirements, **Rohm** developed its newest Led drivers, the **BD183x7EFV-M** (**BD18337EFV-M** / **BD18347EFV-M**) series, which incorporate a proprietary thermal dissipation circuit and individual Led control function. To minimize board area, output channels are consolidated into a single terminal, allowing a configuration at 4ch high output (150mA/ch)

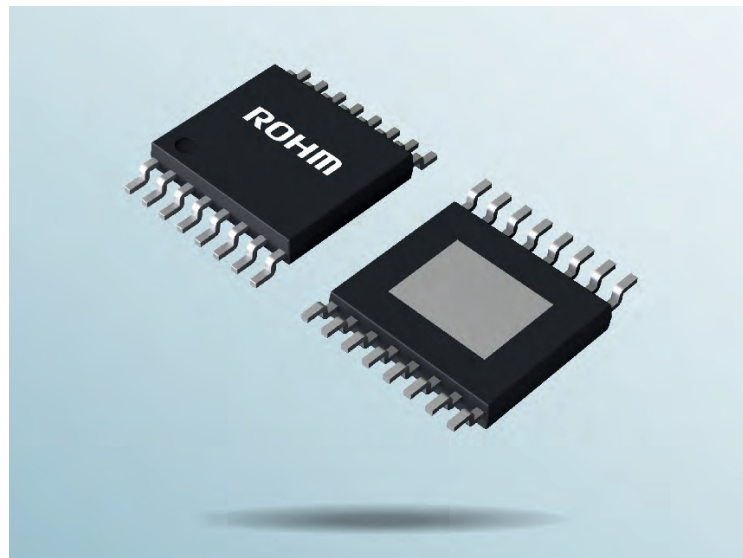
« THE 4 CHANNEL LINEAR LED DRIVER IC WITH BUILT-IN MOSFET
IS IDEAL FOR LED REAR LAMPS (TURN/STOP), FOG LAMPS AND TURN SIGNALS
FOR AUTOMOTIVE APPLICATIONS. »

driver into a compact 16pin package. Further, the individual Led control function allows driving Led lamps with different specifications by one driver. To reduce design effort, heat distribution circuit allows simplification of the overall thermal design. The Led control function enables individual or collective control of Leds in case of errors, to comply with motorcycle standards for license plate lighting. Individual dimming function supports sequential lighting for greater design versatility along with protection functions to protect the LED driver and peripheral circuits.

Reduced board area and application design

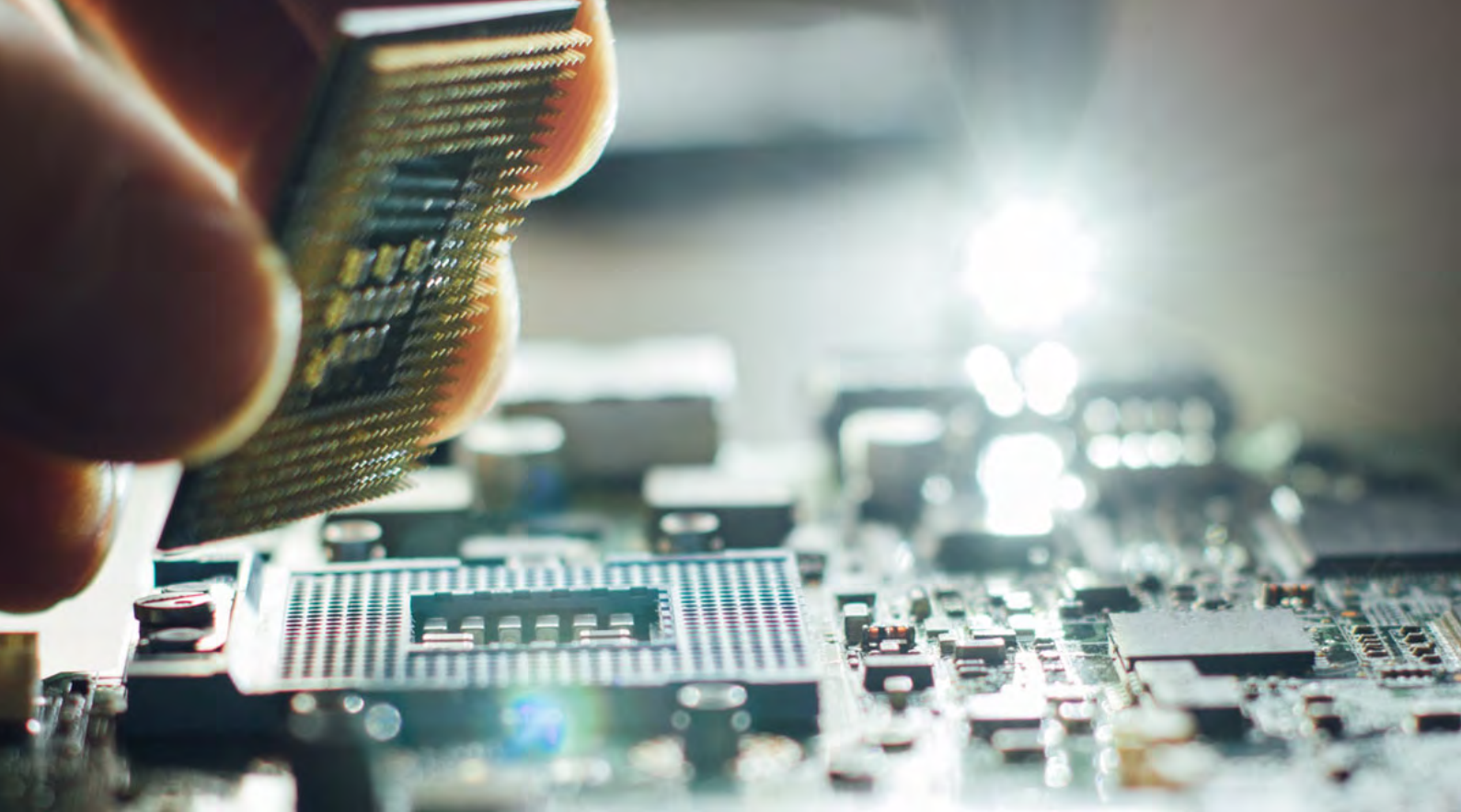
The BD183x7EFV-M (BD18337EFV-M / BD18347EFV-M) series leverages thermal dissipation circuit and individual LED control function, that significantly reduces both board area and application design load for Led lamps.

- **Minimized total board area** | Heat distribution circuit enables high power 4ch output in a compact size Rohm's heat distribution circuit consolidates the heat dissipation terminals into one to achieve higher output power (150mA/ch) in a compact 16pin form factor while increasing the maximum number of channels to 4. In conventional vehicle rear-lamp systems, 2 Led drivers are needed to power 4 Led strings. Rohm's new ICs make it possible to drive all 4 strings with just one driver, significantly reducing the number of parts along with mounting area. Rohm's new ICs integrate an individual Led control function that can simultaneously drive 2 different types of Leds, minimizing board area by reducing the number of ICs by half compared to existing systems, which require 2 ICs to drive same number of Leds.
- **Significantly reduced design effort** | Rohm's heat dissipation circuit minimizes thermal de-



sign man-hours. The BD183x7EFV-M series incorporates a thermal distribution circuit that consolidates the multiple heat dissipation circuit terminals into one, significantly reducing design effort by allowing thermal design typically required for each channel to be completed in a single design step. The built-in control function allows to select either collective or individual Led Off, in case a rear lamp fails to light up. Designers can select to turn all Leds Off or only the failed string, enabling the compliance with multi-regional laws with one single setting, reducing the number of redesign man-hours considerably.

- **Greater design versatility** | The BD183x7EFV-M series provides an individual dimming function for sequential lighting by adding external resistors.
- **Multiple built-in protection functions protect the circuit during abnormalities** | Open/short detection for vehicle lamps, abnormality detection for each channel and other protection functions prevent damage to the circuit, Led driver and peripherals. **E**



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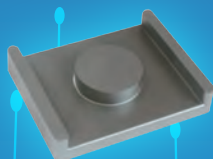
3E10

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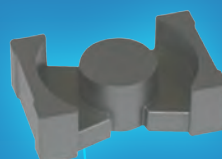
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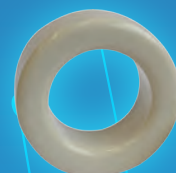
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Planar ER core



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SECURITY

New Secure Vault technology redefines IoT Device Security

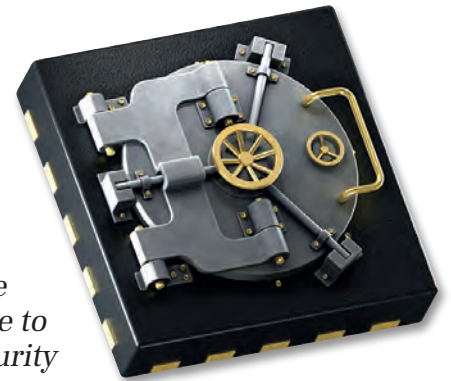
SILICON LABS ANNOUNCES SECURE VAULT TECHNOLOGY, A NEW SUITE OF STATE-OF-THE-ART SECURITY FEATURES DESIGNED TO HELP CONNECTED DEVICE MANUFACTURERS ADDRESS ESCALATING INTERNET OF THINGS SECURITY THREATS AND REGULATORY PRESSURES. SILICON LABS' WIRELESS GECKO SERIES 2 PLATFORM TAKES ADVANTAGE OF SECURE VAULT BY COMBINING BEST-IN-CLASS SECURITY SOFTWARE FEATURES WITH PHYSICALLY UNCLONABLE FUNCTION HARDWARE TECHNOLOGY TO GREATLY REDUCE THE RISK OF IoT SECURITY BREACHES AND COMPROMISED INTELLECTUAL PROPERTY. The security subsystem, including a dedicated core, bus and memory, is separate from the host processor. This unique design of hardware separation isolates critical features, such as secure key store management and cryptography, into their own functional areas, making the overall device more secure.

They say:

"The security landscape is changing rapidly, and IoT developers face increasing pressure to step up device security and meet evolving regulatory requirements.

Secure Vault simplifies development, accelerates time-to-market and helps device makers future-proof products by taking advantage of the most advanced integrated hardware and software security protection available today for IoT wireless SoCs"

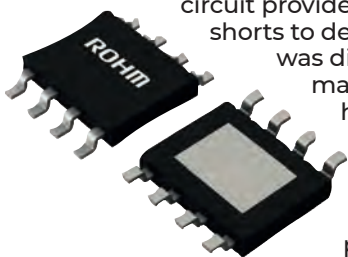
Matt Johnson, IoT General Manager, **Silicon Labs**



AUTOMOTIVE

Optimizing voice output for autonomous driving systems and Adas

In recent years, technological innovations in the automotive field - such as autonomous driving and Adas - require a greater variety of sounds, such as warning sound when departing from the lane or for surrounding obstacles. As a result, even audio output systems in the instrument cluster are utilizing speaker amps to generate sound with an mcu, instead of relays that produce blinker sounds and electronic buzzers that emit warning sounds. However, until now it was difficult to ensure safe, stable sound output at loud volumes. Rohm developed the **BD783xxEFJ-M** series for vehicle clusters - requiring various sound outputs at high volume, including warning sounds, turn signals, welcome tones and voice guidance. Also, adopting a new type of over current protection circuit provides protection against output shorts to deliver high 2.8W output that was difficult to achieve in the past, making it possible to deliver high 2.8W output. In addition to over current protection, built-in thermal shutdown and under voltage lock out ensures high reliability protection against abnormal conditions.



WEARABLES

New Power Management IC extends Battery Life

Designers of compact consumer devices can now slash solution size by half and extend battery life by 20 percent with the **MAX77654** single inductor, multiple output power management IC from **Maxim Integrated**. This next-generation Simo Pmic delivers 3 outputs with just one inductor at 91 % efficiency, which is 16 percent greater than traditional 4-chip systems. With significantly reduced solution size, system designers can pack more functionality in their applications such as wearables, hearables and other compact consumer devices when compared to using traditional power solutions. As designers continue their quest to shrink form factors for compact consumer devices, they must also consider extending battery life (or shrinking battery volume), as well as reducing heat dissipation and noise. The **MAX77654** Simo Pmic addresses space-constraint challenges for system designers by replacing 3 buck-boost converters, 3 inductors with a single converter and a single inductor.



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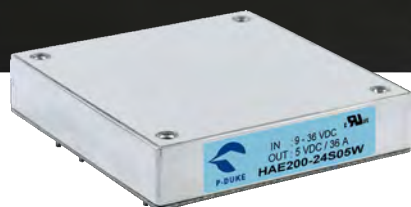


IN-DEPTH

And so, we are here, finally we have arrived in the famous Phase Two of the Covid crisis. The partial re-opening of the Italian economy, like the partial re-openings that are taking place in other European countries, and in the United States, is full of risk and opportunity, full of danger and at times with plenty of confusion as well.



3000 VAC Reinforced Insulation	3000 VDC Isolation Voltage	4 : 1 Wide Input Range	NO Min. Load Required	REMOTE ON OFF	Sync	OCP	OTP	OVP	SCP	UVP
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Serie **HAE200W** by P-Duke

Half-Brick DC-DC Converter

Potenza fino a 240 Watt

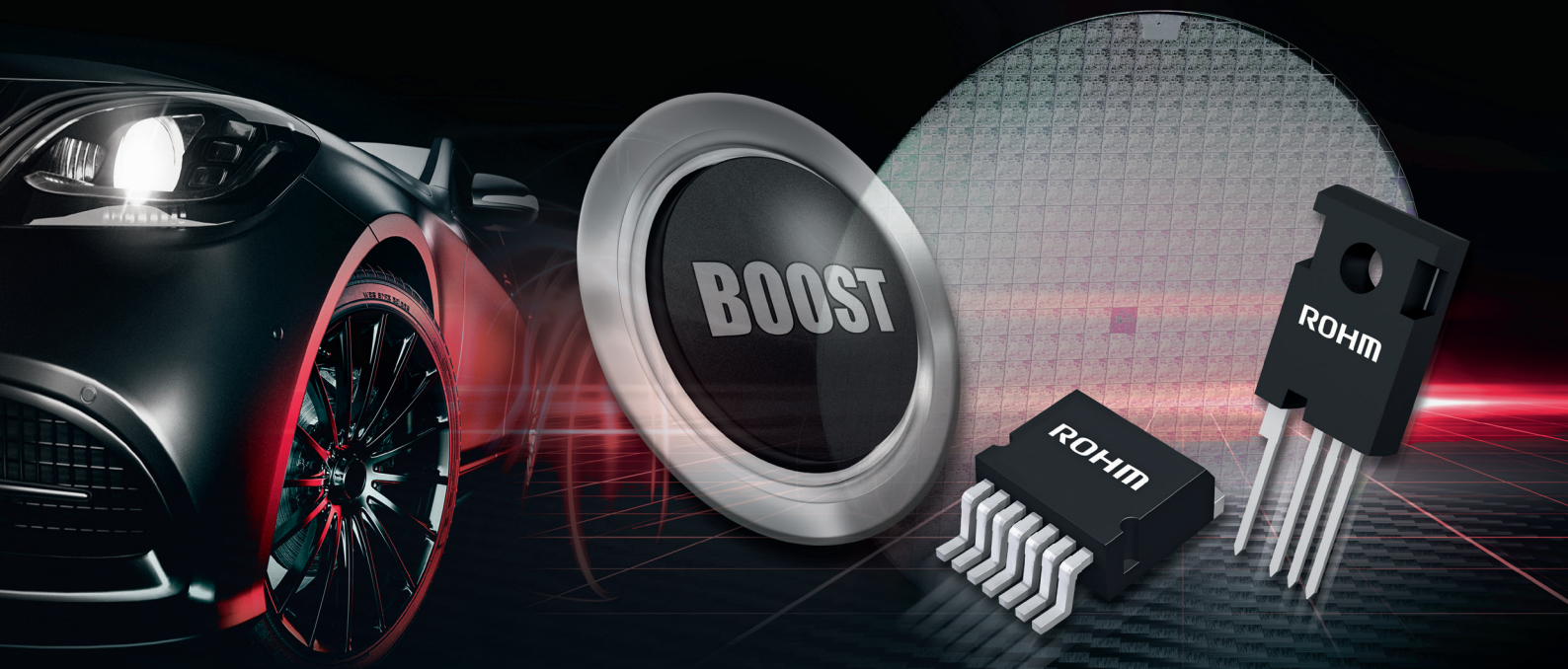
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Certificazioni RoHS, REACH, CB, CE e UR

Possibilità di Synch tra 2 moduli in parallelo

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AUTOMOTIVE



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