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# DuPont de Nemours, Inc. (DD)

Business Update Call

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## MANAGEMENT DISCUSSION SECTION

**Operator:** Ladies and gentlemen, thank you for standing by and welcome to the DuPont Line of Business Teach-in: Interconnect Solutions. At this time, all participant lines are in listen-only mode. After the speakers' presentation, there'll be a question-and-answer session. [Operator Instructions] Please be advised that today's conference is being recorded. [Operator Instructions]

I would now like to hand the conference over to your speaker today, Mr. Pat Fitzgerald, Head of DuPont Investor Relations. Thank you. Please go ahead, sir.

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**Patrick Fitzgerald**

*Head-Investor Relations, DuPont de Nemours, Inc.*

Thank you for joining in today's Line of Business Teach-in with Jon Kemp, President of DuPont Electronics and Industrial. Jon will provide an overview of our Interconnect Solutions business, one of the three businesses within the E&I segment. We have prepared slides to supplement our comments during today's webcast which are available on the Investor Relations section of our website.

We hope today's Teach-in provides additional detail of the underlying technologies and growth opportunities for the Interconnect Solutions business as well as our views on the market. Jon will open with prepared remarks and then we will move to Q&A. We are targeting a total of approximately 45 minutes for today's event.

Before we begin, let me remind you that during today's prepared remarks as well as the Q&A session, we will make forward-looking statements regarding our expectations or predictions about the future of the business and the broader market. Because these statements are based on current assumptions and factors that involve risk and uncertainty, our actual performance and results may differ materially from our forward-looking statements. Please read the forward-looking statement disclaimer contained in the slides.

I'll now turn the call over to Jon.

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## Jon D. Kemp

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Thank you, Pat. It's great to have this opportunity to host another Teach-in event. Many of you joined us for our first Teach-in featuring our Semiconductor Technology business. It's now my pleasure to go into more depth on another great business in our portfolio, Interconnect Solutions or ICS.

Before I do that, let me first say a few words about the announcement we made two weeks ago regarding our agreement to acquire Rogers Corporation. It's a company I personally admired for years because of their differentiated portfolio with leading positions in high-performance solutions, primarily supporting advanced connectivity and advanced mobility; excellent innovation capabilities, technical expertise and deep customer relationships. And based on our early interactions, Rogers' culture looks and feels a lot like DuPont.

The key megatrends underpinning demand in the electronics space are AI and high-performance computing, 5G connectivity, electric and autonomous vehicles and the Internet of Things. To enable these solutions, our customers must solve complex challenges related to signal integrity, thermal management, power transmission, miniaturization and sustainability. Our existing portfolio provides industry-leading solutions and specialty materials and components to address these challenges across a variety of end-market applications. Adding Laird and Rogers to our portfolio will significantly improve our ability to capture new growth opportunities in two ways: First, by adding differentiated technologies in thermal management, EMI shielding, high-frequency laminate, ceramic substrates, specialty busbars and precision foams and silicone materials, we will increase our potential offerings for existing customers and application.

And second, we will capture growth in new markets and application spaces we were unable to participate yet such as enabling solutions for EV battery, power management and packaging, ADAS systems, wireless infrastructure, renewable energy and defense electronics.

The combination of Laird and Rogers with ICS is highly complementary and expands our addressable markets for all of E&I by 50% in attractive high-growth areas that are the focus of significant industry investment. From a timing standpoint, we are still in the early days of adoption for many of these technologies; meaning OEMs and Tier 1 suppliers need material science expertise, application engineering, and design partnership.

There is significant innovation headroom and we have the broadest and deepest portfolio in the electronics industry and are uniquely positioned to partner with customers on next-generation technology. E&I, Laird, and Rogers have all been making significant investments in these areas with a rich pipeline of opportunities supporting growth that will be compounded by leveraging the combined platforms of the three companies. We're excited about the future and look forward to identifying and capturing additional growth synergies in the months ahead. We've established an integration management office and the teams are hard at work preparing for the closing which is expected in the second quarter of next year. Our team is eager to welcome their colleagues from Rogers and to get started on the exciting work of solving our customers' most complex challenges.

Today's discussion will cover our existing ICS business including Laird. The integration of Laird is progressing ahead of expectations, both in terms of business performance and identifying cost synergies. And as noted, we are working together on several growth synergy opportunities which we expect will materialize soon.

As we move into the ICS discussion, I wanted to say a word about the name of the business itself, Interconnect Solutions, and what it means. Interconnect refers to enabling reliable signal transmission and solutions because we're using our broad product portfolio, device knowledge, process and applications expertise to solve customer problem.

A few weeks ago when we discussed the Semiconductor business, I mentioned that the semiconductor chips were the brains of the modern economy, providing the necessary logic, computational and memory storage capability. If semiconductor chips are the brains, interconnects would be the nervous system; carrying wired and wireless signals throughout the electronic ecosystem, enabling functionality across dozens of end-use applications. Interconnect Solutions refers to the way those signals are transmitted, packaged, protected and enhanced.

Moving to slide 2, DuPont has been a leader in the interconnect space for more than 50 years since the development of Kapton polyimide films and Riston dry film imaging technology. The Interconnect Solutions business was formed in 2017 when Dow and DuPont merged. We combined the DuPont's circuit and packaging materials portfolio of Kapton specialty polyimide films, Pyralux flexible laminate and Riston with the Dow interconnect technologies portfolio of metallization chemistries for printed circuit board and electronic industrial finishing. This combination, along with the complementary businesses from Laird and Rogers, gives DuPont the broadest materials portfolio in the interconnect space.

We have also embraced a vision to become the leading sustainable materials solution partner for advanced interconnect. We help solve the toughest industry challenges such as signal integrity, miniaturization, thermal management, EMI shielding, sustainability and high reliability that are required by leading applications throughout the industry. Our expanded portfolio will enable ICS to solve these critical issues from multiple angles; whether through differentiated and enabling materials, improved material integration, engineered structures, new processes or support on device and circuit design. I'd also like to note the increased attention sustainability is receiving throughout the electronics industry. I'm proud of our recent announcement that as of September 1, 2021, 95% of ICS's global operations are powered by renewable electricity. This milestone is part of the ICS business's Zero By 2030 goal of reaching carbon neutral operation.

Slide 3 provides an overview of the ICS business. With about \$1.8 billion in pro forma revenue in 2020, ICS represents approximately 34% of our Electronics & Industrial segment today. On the left-hand side of slide 3, you'll see the revenue breakout by line of business and market segment. With the addition of Laird Performance Materials to our portfolio of metallization and imaging and films and laminate, ICS now has three lines of business that are roughly equal in revenue. The portfolio is highly diversified with various end-market segments, including the four largest: Consumer electronics, smartphones, automotive and telecom. ICS has deep intimacy with its customers and works closely with them to solve their most complex challenges.

We have a large global footprint with state-of-the-art research facility, application labs, manufacturing plants and people that provide us with critical mass in the United States, Asia and Europe. Our global footprint of 19 manufacturing sites and approximately 5,700 colleagues enables us to be close to our customers so we can quickly respond to their needs as well as operate a very robust and agile supply chain. Nearly 80% of the business revenue and most of the transactional customer base is concentrated in Asia. However, we have deep relationships with leading OEMs and Tier 1 partners in North America and Europe where device design and

material specifications are made. We work closely with these partners on early-stage application engineering opportunity that results in next-generation technology.

On slide 4, you can see that our ICS business has a strong financial profile. Since 2019, the ICS business has demonstrated market-leading growth. With organic compound annual growth of approximately 7% since 2019, ICS has consistently outperformed the broader market by 200 basis points. With our portfolio expansion, capacity investments and enabling technology, we are well-positioned to continue our market outperformance enabled by growth from industry megatrends and partnerships with leading OEMs.

When you look at the broader PCB industry, there is a combination of high-value, more specialized materials as well as categories of materials that are more competitive. The ICS portfolio is heavily weighted towards high-value, more specialized materials which gives the overall business a stronger margin profile than competitors within the PCB industry.

Our growth strategy is focused on a few key elements. We are focused on key industry megatrends enabled by Interconnect. We have strategically invested in differentiated technology and manufacturing capacity. Our investment to expand Kapton's capacity in our Circleville, Ohio site is a great example of how we are selectively targeting high-value growth opportunities where we are well-positioned to win.

We are in the final stages of commissioning the units and we will begin qualifying material in the first-half of 2022 for high-value applications such as 5G smartphones, electric vehicles, and renewable energy which will start to accelerate in the second-half of the year. We have deep material science capability which we leverage to continuously innovate and bring the next-generation of products to our customers. We're able to leverage these partnerships to work on critical industry challenges. This gives us an advantage in validating and deploying new solutions to the market.

In addition to our material science expertise, we are now able to bring world-class capabilities in device knowledge and design, application engineering and process technology, and system and component design to our customers. We have also built process expertise and knowhow to enable our customers to resolve their manufacturing issues and optimize yield. And our world-class application support enables us to customize our products to work specifically with each customers' unique process and requirement. Our close geographic proximity and depth of local technical and applications expertise create an advantage for us as OEMs and large customers value our ability to work with their teams at their respective global sites.

As we have demonstrated this year, driving inorganic growth through M&A is also a critical part of our strategy and enables us to expand both our addressable market and our potential offerings for leading customers and OEMs. As I mentioned during the opening, the acquisitions of Laird and Rogers bring critical capabilities and market-leading offerings to our portfolio in high-growth areas. We will continue to look for the opportunities to strengthen our portfolio to enable us to enhance our offerings for our customers.

Moving to slide 5, we see how key industry megatrends on the left-side of the chart drive strong market demand and investment throughout the value chain. These megatrends are projected to grow substantially in the long-term, giving us confidence in the sustainability of our growth trajectory. This is reflected in the general market indicator most relevant to ICS, the printed circuit board market. PCBs are projected to have consistent market growth of approximately 5% over the next five years. More importantly, certain segments like 5G connectivity and electric and autonomous vehicles are primed for even higher growth. We are well-positioned to capitalize on these high-growth segments which are enabled by Interconnect.

Turning to slide 6, the megatrends we discussed have led to a convergence of critical technical challenges that the industry and our customers will need to overcome. As I mentioned before, we have focused our strategy on enabling the success of our customers' technology roadmaps that are aligned with these megatrends and are growing faster than market. For example, smartphone customers need to fit more functionality into the already small spaces, requiring them to be thinner and denser circuits with more connections. This creates new processing challenges that makes devices generate more heat and become less reliable. ICS is partnering with customers to develop materials and processes to enable finer lines and spaces on the circuit board as well as enabling better heat dissipation to ensure reliable operation.

In automotive, the challenge of signal integrity is emphasized further. Today, about 10% of the roughly 1 billion vehicles on the road use an advanced driver-assist or ADAS system; mostly for lane assist, cruise control, collision avoidance or blind spot detection. To proliferate the adoption of these systems and for complete autonomous driving, the industry needs to demonstrate that these ADAS devices enable vehicles to be safe and reliable to use in real-time without human intervention. High speed and high frequency connectivity as well as EMI shielding is required to ensure signals are received and processed without any distortion. ICS is well-equipped to address all of these issues at the design, component, board and material level.

On slide 7, ICS today has a comprehensive product portfolio with many competitive advantages. DuPont's Kapton polyimide films have set the industry standard for more than 50 years in high performance, reliability, and durability. While the Pyralux portfolio includes a diverse collection of flexible circuit material that provide designers and engineers the freedom to design and manufacture complex circuits that deliver high-performance solutions. These materials are often selected and specified because of a decades-long track record of highly reliable performance under extreme conditions.

DuPont Riston dry film photoresist revolutionized the way PCBs were fabricated when it was invented more than 50 years ago and continues to be the industry standard for imaging applications. Complementing that capability is our wide variety of chemistries critical to the performance of high-performing printed circuit boards. Laird adds market-leading capabilities in electromagnetic shielding and thermal management with a comprehensive offering of performance components and solutions that manage heat and protect devices from electromagnetic interference. In many cases, the end applications or end customers use combinations of our materials to solve their critical challenges. For example, the charging connector for electric vehicles can utilize solutions from our metallization business and Laird. Increasingly, customers are requesting not only materials solutions but also application, device, and processing expertise and knowhow. It's what gives us a seat at the design table and enables us to work together on optimizing their design.

To give you a few quick examples, our films and laminates business has been able to partner with a leading OEM on 5G smartphone antennas designing the new antenna using advanced, low-loss flexible laminates in combination with a customized adhesive and coverlay structure to help them accelerate their deployments of 5G smartphones. Similarly, our metallization and imaging team was able to solve miniaturization challenges that lines become finer and spaces between lines become smaller. Our team used advanced imaging technology to develop customized plating solutions for the customers' manufacturing process including electroless copper that enables deposition into very fine holes which are then filled with our electroplating chemistry to ensure signals and currents are carried without loss. Similarly, our electronic finishing products enable high-performance LED frames, connectors and EMI shielding enclosures.

Laird has had great success on automotive radar applications in smart vehicles using their EMI solution. Working with leading global mobility technology companies, Laird is providing a high-performance, cost-effective, integrated heat sink assembly for ADAS radar, EMI and thermal control. Beyond individual solutions, we are also



partnering across the portfolio to bring even broader solutions to our customers as we work together on the right combination of materials selection and processing technology to develop their advanced electronic devices. I will share more on this later.

Slide 8 demonstrates how we partner across the value chain with a total solutions approach and how the Laird and Rogers acquisition will further expand ICS's market-leading position. ICS is uniquely positioned in the electronics value chain to provide multiple solutions to the industry for the common technical challenges facing our customers. If you look at the value chain, our recent portfolio actions bring in additional materials depth and extend our participation further downstream.

Our core PCB businesses are films and laminate and metallization and imaging. These businesses play primarily in the electronic materials and fabrication space in the value chain, providing key differentiated materials to the PCB industry; whether it's flexible circuits or printed circuit boards. And the addition of Laird enables ICS to participate more broadly in the assembly and component part of the value chain, increasing our addressable market and providing new solutions and alternatives in our toolbox. DuPont partners with OEMs, PCB makers and assemblers to enable them to solve problems in signal integrity.

On the far left, we have the capability to partner with OEMs and device designers, and designs for manufacturing to ensure that their complex designs can be implemented in production. We have many examples where our design expertise helped our OEM partners to optimize their design to improve processing efficiency.

The middle section represents a simplified PCB manufacturing process that illustrates where DuPont provide both materials for critical process steps and helps develop new processes for complex structures. We have further enhanced this capability through close partnerships with leading equipment providers to provide our customers additional flexibility. Through our participation further downstream in the assembly space, in thermal management and EMI shielding we can extend our solutions and solve problems at the board or assembly level. The Rogers acquisition complements our offering in the PCB market by adding high-frequency rigid laminates as well as significantly extending our applications offering in the assembly and electronics components space with ceramic substrates, specialty busbars and precision foams and silicone material.

As we look into the future with increasing performance challenges and more complex design, we see even more opportunities for optimization between materials, processing and assembly. It is in these advanced applications that we are already seeing more opportunities and customer interest intensify. To better capitalize on these opportunities, we are investing in next-generation capabilities to accelerate customer development cycles by replicating their processes and devices via prototyping on full-scale equipment.

Slide 9 illustrates many of the different applications for 5G smartphones and electric vehicles that could potentially use our material. In next-generation smartphones, our materials have increased significantly over the past few years because of both the increased number of circuit and the need for higher performing material. We expect this trend to continue to increase as higher performing materials and additional functionality, especially around connectivity is designed into the device. In smartphone and electric vehicles, we are well-positioned to take advantage of the upcoming growth opportunity as electronic content continues to increase. For example, looking at just PCBs in a vehicle, many electric vehicles require 4 to 10 times more PCB content than a conventional vehicle. This slide also shows how the different parts of the portfolio contribute to various sub-modules and assembly. The various colors on the chart show how multiple products can be combined to develop a solution for a particular application. Most of the ICS offerings today are in the cabin. Laird brought us deep expertise in radar system components with multi-functional solutions and electromagnetic shielding product. Rogers expands our position in radar systems with high-frequency laminate and gets us under the hood into the vehicle's battery and

drive systems. Both Laird and Rogers have deep relationships with auto OEMs and Tier 1 suppliers and a strong pipeline of opportunities that give us confidence in future growth.

In summary, there are a few key takeaways on slide 10 that I'd like to close with. First, we are well-positioned to continue to outperform the market, driven by outsized exposure to high-growth segments with upside potential from the accelerated growth in electric and autonomous vehicles, 5G connectivity, high-performance computing, and the Internet of Things. Second, the acquisition of Laird and our recently announced acquisition of Rogers significantly add to our already strong portfolio. Both Laird and Rogers have market-leading positions and highly complementary product lines that are also well-positioned in high-growth applications. Third, ICS has world-class design, application engineering and process capability. We are a partner of choice for our OEM customers with a seat at the design table and can help solve our customers' most critical and complex interconnect needs. Fourth, we have a winning combination of leading-edge technology and total solutions that is unmatched in the industry. We expect to win more opportunities from our strong innovation pipeline with additional upside from growth synergies with Laird and Rogers. And finally, with our global technology network, industry-leading supply chain and manufacturing capability, we can continue to deliver both operational excellence and the highest quality to our customers.

Interconnect Solutions is well-positioned to capitalize on an extended period of growth, driven by technology demand and the intersection of key industry megatrends that require continuous innovation, high-quality and reliability. I'm excited about our future.

Now, let me turn it over to Pat to open the Q&A.

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## Patrick Fitzgerald

*Head-Investor Relations, DuPont de Nemours, Inc.*

Thanks, Jon. Let me remind you that our forward-looking statement disclaimer applies to both the prepared remarks as well as the following Q&A. We will allow for one question and one follow-up question per person. Operator, please provide the Q&A instructions.



## QUESTION AND ANSWER SECTION

**Operator:** [Operating Instructions] Our first question comes from the line of Jeff Sprague from Vertical Research Partners.

**Jeffrey Todd Sprague**

*Analyst, Vertical Research Partners LLC*

Q

Thank you. Good morning. Thanks for the call. You did a very nice job here kind of laying out kind of the complementary aspects of legacy DuPont and Laird and now Rogers coming in. Are there clear white spaces that remain though having done this where there's kind of clear natural adjacencies to kind of further firm up these positions? And how – if the answer is yes, would we expect kind of a combination of organic and/or M&A to get there?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Great question and thanks for that. I do think that the actions that we've taken over the last year have significantly added on to our portfolio. M&A continues to be an important part of our growth strategy in addition to the organic pipeline that we're very excited about. I think as we look forward, it's more bolt-on pieces. We're well-positioned across each of the different steps as I think we try to demonstrate in the prepared remarks. And what we would see now would be kind of bolt-ons or tuck-ins that would be opportunistic additions in certain technology positions or that would just give us a few additional tools into the toolbox.

**Jeffrey Todd Sprague**

*Analyst, Vertical Research Partners LLC*

Q

Right. And can you share any color just on the kind of relative profitability of the three product lines? I suspect you don't want to get into precise margin numbers but maybe just a little color on what's above, below or kind of in-line with segment averages would be interesting.

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. So, when you think about the E&I segment average, clearly the Semiconductor business has margins that are well above the segment average. I would say the leading margin profile components within the ICS portfolio are going to come from the Laird pieces; the specialized solutions and thermal management and EMI shielding have strong margins. And then you've got the Metallization business that has very attractive margins.

Within the films and laminates business, you've got kind of two answers. As I alluded to there's parts of that market that are highly specialized. They're going to have very high margin profile. There's other parts of the market that are a little bit more competitive where the margin profile is below the segment average. On average, the ICS business has a gross margin profile that's similar to the rest of the DuPont company. And so that's kind of how I would characterize it.

**Jeffrey Todd Sprague**

*Analyst, Vertical Research Partners LLC*

Q

Great. Appreciate it. Thank you.

**Operator:** Our next question comes from the line of Steve Tusa from JPMorgan.

**C. Stephen Tusa**

*Analyst, JPMorgan Securities LLC*

Hey. Good morning.

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Hi, Steve. Good morning.

A

**C. Stephen Tusa**

*Analyst, JPMorgan Securities LLC*

Just curious as to how you guys are kind of managing and looking out over the next 12 months with regards to anything going on in kind of global supply chain and supply constraints? What kind of impact that would have on you, guys?

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Yeah. [indiscernible] (00:28:49). Yeah. Great question. Certainly, the dynamics with the global supply chain and logistics issues continue to be challenging. We're taking several measures to mitigate the impacts. We're looking at local sources. We've got a nice global footprint of manufacturing sites that allow us to shorten some of those supply chains. We're extending lead times and booking shipments early and encouraging orders to give us as much visibility as possible into demand. We have seen those lead times extend out a little bit.

A

Obviously, the semiconductor chip shortage is having an impact on certain parts of the business as we alluded during the earnings call a few weeks ago. We expect that that will improve as we move into next year. And I guess I would say fundamentally end-market demand remains really strong. So it's not a demand-based issue really. It's just a matter of timing on the orders based on some of the supply and logistics constraints. And so our team so far this year has been able to really effectively manage that. We've seen a little bit of slippage from month-to-month, but we've been able to meet all of those orders. And in fact, in some cases, we've been able to opportunistically increase our share position because of the flexibility of our supply chain.

**C. Stephen Tusa**

*Analyst, JPMorgan Securities LLC*

Great. Thanks. Good answer. Thanks a lot.

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Thanks.

A

**Operator:** Our next question comes from the line of Vincent Andrews from Morgan Stanley.

**Angel O. Castillo**

*Analyst, Morgan Stanley & Co. LLC*

Q

Hi. Thanks for taking our question. This is Angel Castillo on for Vincent. I just wanted to follow up on that last question in terms of ability to increase market share. I was wondering if you could give us a little bit more color as to what particular lines or I guess parts of your business you've seen an ability to increase market share and particularly as we think about Rogers and Laird combination. As you think about – you noted the TAM, ability to increase the TAM. I was wondering within your existing areas where you participate how do those acquisitions kind of impact your ability to gain market share and what are you kind of hearing from customers in terms of potential new wins? Sorry, I know that was a lot.

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Great. No problem. And it's a great question, right? When we look at the complementary nature of the portfolio, we're really excited about both of those dimensions; the opportunity to bring our existing customers additional solutions within their current devices and more importantly helping them to design the next-generation devices with the integrated technology is really where we're seeing the most opportunity. Obviously, there's the ability to cross-sell different channels and customers where one part of the business was already providing them with solutions and now we can offer them complementary materials from a different part of the portfolio.

So we're already seeing that; it's from the growth side accelerate with the Laird acquisition. We would expect to be able to do that with Rogers once we get past the closing in the second quarter of next year. When you look at it broadly, I think the – where we continue to see gains is and increasingly in applications where the market is requiring more sophisticated, more complicated, more advanced solution. And those are the opportunities where our designed partnerships and the specialty nature of our materials come into play. So, a couple of specific areas, and ADAS systems, for example, where we've been able to partner together with what Laird has brought in. Clean energy is another area that we're really excited about. And then the telecoms part of the market significantly expands our position to penetrate there.

**Angel O. Castillo**

*Analyst, Morgan Stanley & Co. LLC*

Q

Got it. That's very helpful. And maybe Jon I guess just to kind of expand on that. In terms of the auto piece I think Rogers; it has strong relationships within OEMs there. Any kind of opportunities for market share within auto specifically and kind of grow that share with ADAS, for other kind of areas as well?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Absolutely. We're already seeing with Laird and the position that they have with the ADAS systems and the partnerships that exists within the OEMs and the Tier 1s the opportunity to partner more effectively. We expect that will compound significantly as we bring Rogers into the portfolio and we have the opportunity to participate more on the drive systems and the battery components.

**Angel O. Castillo**

*Analyst, Morgan Stanley & Co. LLC*

Q

Very helpful. Thank you.

**Operator:** Our next question comes from the line of John Roberts from UBS.

**John Roberts**

*Analyst, UBS Securities LLC*

Q

Thank you. Slide 8 shows that Laird and Rogers sell downstream to the assembly customers. Did those Laird and Roger (sic) [Rogers] (00:33:54) customers also specified the printed circuit board production so that they can influence PCB business possibly going to DuPont?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Great question. Most of the design specification happens at the OEM level and then the downstream fabricators or assemblers are responding to the specific designs and material specifications that the OEM provides. And that's really why the partnership that we have all the way across the value chain becomes important.

When you get to the fabricators and the assemblers, a lot of times for them it's about how do you optimize their ability to meet the demands of the OEM design? And that's where that processing capability becomes a real advantage so we can help them to meet the material specification that the OEM is providing, at the same time optimizing their yields, you're getting a lower total cost of ownership.

**John Roberts**

*Analyst, UBS Securities LLC*

Q

Thank you.

**Operator:** Next question comes from the line of John McNulty from BMO Capital Markets.

**John P. McNulty**

*Analyst, BMO Capital Markets Corp.*

Q

Yeah. Thanks for taking my questions. So it looks like historically DuPont's exceeded the kind of industry growth rate by a couple hundred basis points. I guess when you think about the addition of Laird and Rogers and also some of the exposure, some of the higher growth markets, as we look at over like the next, whatever, three to five years, do we see that outperformance of the market increase where you're talking kind of high-single digits, maybe even double-digit growth in this business or does it – do you really just kind of maintain that 200 basis point outperformance, how should we think about that going forward?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Well, I think that we've demonstrated historically the ability to consistently outperform the market. The pay and certainly we're excited about the growth opportunities that we have in front of us, the pipeline of organic opportunities. This is very strong. The portfolio additions give us the ability to compound on those growth opportunities. I think that we're very comfortable that we're going to continue to outperform the market. I think that the timing and the magnitude of that depends on some of the pace of some of these new technology adoptions; whether that's in the 5G space or the electric vehicle space. I'm very comfortable we're going to continue to outperform similar to what we've done in the past.

**John P. McNulty**

*Analyst, BMO Capital Markets Corp.*

Q

Got it. Fair enough. And maybe just one other question. Can you speak to the capital intensity of the business? I know you indicated you're putting in some new – like an expansion of one of the lines. Maybe you can just give us your thoughts on how to think about returns on capital that you'd put into this business. How should we think about that?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Great question. So, when you think about the CapEx for this business. It's – I alluded in the prepared remarks that we were just finishing the Kapton's polyimide line expansion and that's kind of a once-in-a-decade or once-in-two-decades kind of project because it's a hundreds of million-dollar capital project to expand really a specialty enabling material.

When you look at the rest of the business, it tends to have a much lower capital intensity that's pretty consistent with what you see from the rest of DuPont. So, kind of the same percentage of sales basis that DuPont has is what you would expect from this business. And then we would continue to add incremental capacity where necessary.

As we bring Rogers into the portfolio, it has a slightly higher CapEx profile mostly because they're building out some of the capacity for the anticipated growth on the EV side.

**John P. McNulty**

*Analyst, BMO Capital Markets Corp.*

Q

Got it. That's helpful. Thanks for the color.

**Operator:** Next question comes from the line of Chris Parkinson from Mizuho.

**Christopher Parkinson**

*Analyst, Mizuho Securities USA LLC*

Q

Great. Thank you very much, a corollary of two prior questions. On page 8, there's a helpful diagram of just the overall PCB process now. Laird and Rogers really round out the value chain. So – but when you look at the competitive landscape on a go-forward basis who else in terms of your competitors actually compete against your breadth and are there even any other assets that they could buy to really even match you or is this kind of a sustainable lead as we think about things towards the mid-decade? Thank you.

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah, Chris. Thanks. Great question. When you look at the competition in each of these spaces, it really is fragmented into each of the specific product categories. So, there are competitors in the polyimide space, there are competitors in the laminates space, there are competitors in the metallization and imaging space, and then there's competitors in the assembly and component space. And all those competitors are different. That's the unique power of this portfolio is the ability to bring that breadth of solutions, processing expertise, and design capability, end-to-end, throughout the entire process.

There is – I think you're all well-aware of the Atotech acquisition. There's others in the industry that are looking to do some other things. That's more of an equipment and chemistry combination. There's certainly other opportunities that could be out there. But right now, at this point, the market remains pretty fragmented.

**Christopher Parkinson**

*Analyst, Mizuho Securities USA LLC*

Q

That's very helpful. And just kind of a similar question for EV breadth on page 9, just what's your expectation for the total value approach as you laid it out there for customers given a lot of the EV launches are already occurring and Rogers won't close for a few more quarters? Can you just kind of give us a perspective on how you can approach with that competitive advantage now versus how you will be able to approach the market and your customers given once it closes, [ph] over a few years (00:39:51), is there a difference there or can you really reap the benefits now as things launch presumably within the next 12 to 24 months? Thank you.

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Yeah. Good question. Obviously, right now, until we close the transaction, we'll continue to operate as two separate companies. Both companies have their individual growth pipelines that we'll continue to work towards and really we'll have some awareness of what those are. And as soon as the transaction closes, we'll be aggressive with jumping into conversations with the OEMs and the Tier 1 suppliers on how we can further optimize the pipelines across both companies. We certainly don't want to slow down the adoptions that are in flight. But where we can enhance and bring additional value into future platform adoptions and technology programs, we're certainly going to do that.

**Christopher Parkinson**

*Analyst, Mizuho Securities USA LLC*

Q

Thank you.

**Operator:** Next question comes from the line of Bob Koort from Goldman Sachs.

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

Q

Thank you. Good morning. I was hoping you could...

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Good morning.

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

Q

...talk a little bit – you mentioned some about the intensity or the increased content maybe on the ADAS and the EVs, could you tell us maybe on a per unit basis how much of the combined assets, businesses you would have there and how much more was it enhanced by adding Laird and Rogers to the portfolio?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. It's a good question and it's a complicated one to answer, simply because there's so much variability across the different platforms and types of vehicles; whether it's an ICE vehicle, a conventional vehicle, a premium vehicle, the degree to which they've implemented electronic components and functionality.



I'm not going to really speculate on in terms of the Rogers' specific content at this stage. I mean we can certainly have that conversation after we close the transaction in the future. It will significantly enhance our content per vehicle. I would say, on average, we're sort of around up to \$30 a vehicle on PCB content.

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

That's today, right? That's pre-Rogers...

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Today. Correct.

A

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

Yeah.

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Correct.

A

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

And then can you talk a little bit about the stickiness and sophistication of this business, the circuit board applications relative to the Semi Solutions? Do you have the same level of technology moat? Do you have the roadmaps that are in front of the industry? Once you're in at a PCB manufacturing plant, are you pretty well going to have that business until there's a change in platform? Give us a sense of the compares and contrast if you could to the Semi Solutions business?

Q

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

Yeah. Great comment. I would say certainly the stickiness of the technology partnerships and the design partnerships is what creates the competitive advantage. You have a lot more – a lot – similar to the Semiconductor where we're constantly innovating to create the next node of material there is a corollary in the printed circuit board space where you've got device designs. OEMs are constantly releasing the next-generation of device design and so you've got a very rapid product development cycle that the OEMs are meeting, and then the fabricators and the PCB board shops are constantly working to meet this rapid pace of the OEM launches. And so it's really the design partnership and then the optimization partnerships that give us the sticky aspect of the relationship because we can help them to accelerate their product development and process optimization so that they can meet the aggressive launch timelines by all of the OEMs.

A

**Robert Koort**

*Analyst, Goldman Sachs & Co. LLC*

Great. Thanks so much.

Q

**Operator:** Next question comes from the line of Aleksey Yefremov from KeyBanc.

**Aleksey Yefremov**

*Analyst, KeyBanc Capital Markets, Inc.*

Q

Thank you. Good morning, everyone. Are there any major new technology adoption in Interconnect materials? And the question is sort of analogous to in Semiconductors you have new nodes that tend to drive the need for new materials to have higher value. Is there a similar dynamic in Interconnect?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. Great question. There's two big areas that we're focused on. As I alluded to, some of the two big needs in the industry or a couple of the big needs of the industry are things like signal integrity, miniaturization and thermal management. And so in the area of signal integrity, the new materials are really low-loss materials. Those are low-loss laminates that can operate with 5G millimeter wave antennas and ranges to help enable the 5G connectivity. And that's really been the kind of the next – the latest generation of technologies on the laminates side of the house.

If you look at things like miniaturization on the PCB side, it's very analogous to the semiconductor world in that you're constantly getting smaller and smaller spaces where you're trying to fit in more functionality. And so anything you could do with it, they would call it high-density interconnects is really kind of the leading application area where we're going down that roadmap.

And then of course on thermal management, it's constantly improving the efficiency of how fast and how much heat we can get out with the minimum amount of material and area. So, it's the efficiency of the heat transfer in the thermal management. And each one of those different areas has their own technology roadmap. And then when you put them together, you can optimize the overall design.

**Aleksey Yefremov**

*Analyst, KeyBanc Capital Markets, Inc.*

Q

Thank you. And you have talked about market growth of about 5% historically. With all these content gains, do you think it could accelerate several hundred basis points above that?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

I do think that there's opportunities to continue to outperform the market. And as I've said before, there's definitely upside potential to the growth of the business as we complete the integrations of the portfolio and continue to execute against our technology roadmaps.

**Aleksey Yefremov**

*Analyst, KeyBanc Capital Markets, Inc.*

Q

Thank you.

**Operator:** Our last question comes from the line of Arun Viswanathan from RBC Capital Markets.

**Arun Viswanathan**

*Analyst, RBC Capital Markets LLC*

Q

Great. Thanks for taking my question. I guess my question is about Asia. There's a large presence there I guess. Do you see the need to invest in more capacity and is that kind of the main area of growth that you see? And

could you also describe some of your relationships there? I guess would you be making more inroads too with fabs or what part of the supply chain would you look at to increase your relationships and growth?

**Jon D. Kemp**

*President-Electronics & Industrial, DuPont de Nemours, Inc.*

A

Yeah. So, great question. Asia is an important part of our business. As I mentioned in the prepared remarks, about 80% of our sales and most of our transactional customer base is located in Asia. If you look at where the design and the material is specified, about 50% of that Asia demand is really specified by designers and OEMs that are in the US or Europe. And so it's really the relationships with the OEMs that are critical.

And then the other relationship that we have is really with the most sophisticated and the leading PCB assembly and board shops. Now, that's a fairly fragmented market. And so there's literally hundreds of customers that we're working with in that space, but there's probably 20 or 30 of them that are partnering with OEMs on leading-edge designs. And those are the critical relationships within Asia that we're focused on.

In terms of capacity, look, with the completion of the Kapton's capacity that that is coming online now, we're really well-positioned within the industry, across all of our product lines from a capacity standpoint, to be able to absorb and fund future growth and to be able to meet the demands. As I mentioned as we bring Rogers into the portfolio, they're investing to build out some of their capacity and a couple of their product lines right now as well, and we'll continue to do that over the next few years.

**Arun Viswanathan**

*Analyst, RBC Capital Markets LLC*

Q

Great. Thank you.

**Patrick Fitzgerald**

*Head-Investor Relations, DuPont de Nemours, Inc.*

Great. Thanks, Jon, and thanks to everyone who joined us today. We hope you found this Teach-in helpful to better understand the Interconnect Solutions business. If there are additional questions, our Investor Relations team is happy to have a follow-up discussion with you. As a reminder, today's webcast was recorded. It will be available for replay, along with the slide presentation on the Investor Relations section of the DuPont website. We look forward to continuing to provide greater detail into our businesses with additional Teach-in sessions in the New Year.

Thank you again and have a good day.

**Operator:** This concludes today's webcast. Thank you for participating. You may now disconnect.

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