




GET IN

The hearts and minds of
tomorrow's vehicle buyers



The idea of car ownership is evolving in tandem with rapid urbanization. As our cities transform to become more sustainable and human, so does our experience with vehicles. With this change comes uncertainty. As automakers, you pursue challenges that extend from the present to the future. However, you only need to **get in** to discover game-changing solutions that enable innovation, accelerate development and deliver results.

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FINDING OPPORTUNITY IN UNCERTAINTY

At the crux of the challenge is the transformation of the customer experience, in which the ability to win both the hearts and minds of a diverse customer base – and to continue to win it even as vehicles evolve – determines success.

That means speaking to the wants and needs of both a 35-year-old professional woman in Shanghai and a 50-year-old family man in Paris. It also means providing a compelling introduction to new technologies for customers who have tremendous expectations of the vehicles of tomorrow.

By 2050, two-thirds of the world's population will be urban dwellers, but burgeoning migration to urban centers is already impacting how people live and move today¹.

Consider urban vehicle ownership today. It is costly, and can even be a liability, driving people to look for alternative modes of transportation or even forgo ownership altogether.

It is one thing to successfully determine what customers want and need now. But if that wasn't complex enough, customers will soon face technology that they can't even conceive of let alone feel confident in adopting.

Today, automakers are already introducing electric and autonomous vehicles that will herald a new era of mobility. These vehicles will be like what automobiles were to horse-drawn carriages – foreign and bewildering. When mobility is disrupted, the adoption of these technologies will falter if the automotive industry doesn't deliver and validate their end customers experiences.

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Humanity is at the precipice of a new vehicle experience. Ride sharing is the prologue to a conversation about a future where numerous networked, autonomous vehicles will transport people and things. It is a future that's mired in uncertainty for automakers.

In response, automotive designers are developing a new environment for the design language of future vehicles. These are vehicles that might not have glass windows, but smart windows, and replace the steering wheel with interior panels that can be used for interaction and advertising.

Concurrently, engineers are creating complex systems that enable vehicles to weave through traffic without any human intervention.

These are exciting boundaries to explore, but automakers who want to explore them face considerable risks in prototyping such vehicles to test real-world scenarios.



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The optimal experience will determine whether customers will adopt new technology and understand the value of future vehicles. They have to – figuratively and literally – see themselves in it.

In the near future, vehicle interiors and exteriors may be revolutionary. To many, this will seem like science fiction; to bridge the gap, customers have to experience vehicles to understand and believe in them. What will differentiate your vehicles is the experience they offer – one that will meet what customers expect of future vehicles.

Thus, every step from sketch to sale needs to be measured against the customer experience. This means that everyone involved with the vehicle creation process must be able to communicate and collaborate efficiently.

The optimal solution will provide a central decision-making platform where automakers can put their finger on the pulse of every point of the journey from sketch to sale and make pivotal course corrections to win over this elusive future audience.

Want in on the experience? Simple. Just get in.

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THE PHILOSOPHY OF THE NEW CUSTOMER EXPERIENCE

"What the digital transformation is really providing is the ability to design very contextually. It is where every actor of design can access the solution by providing it in a digital design simulation with the ability to put the product into the context of an immersive virtual interaction that can provide a lot of insight and variation. In the past, you would only have the resources or the time to do just one. So you can increase your possibility to nail the right answer sooner, which is a huge advantage.

"It is a must-have advantage because today, when people use vehicles, they are expecting an interaction that is really meaningful. It's relationship-building – forming a secure, trusting and long-lasting relationship – and this is very different than just selling a product that is feature- and functionality-driven.

“ The new customer experience is really about being bold to deliver what nobody asked for when it is actually the only thing they want.”



– Anne ASENSIO, Vice President
of Design Experience

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"The brand needs to be a partnership for life. Building that requires much more than just impressive design or an amazing retail showcase. One of the issues that brands are facing right now is a total transformation of the way a user is interacting with vehicles. And this is radically changing the relationship a user would have with the brand. It's not because brands are failing to deliver what they are used to, but because the users are changing.

"The new generation, for example, has different preferences. They don't want to spend too much on the ownership of the product. I think

they want to be free. It's basically the attitude of human beings, who want things to be made more simple and easy. It's a deep human emotion to want mobility with freedom.

"And emotions influence behavior. Sometimes, people treat themselves with a nice thing or experience, something that gives them intimate satisfaction, and they're not capable of expressing why.

"The new customer experience is about being bold to deliver what nobody asked for when it is actually the only thing they want."



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CHAPTER ONE: GET IN THE IDEA

Against this backdrop, automakers are faced with an incredible challenge – and a big opportunity. The focus of the entire value chain has shifted to the customer experience.

Thus, everyone in the vehicle creation process has a part to play in making the customer experience a success, and every step from sketch to sale has to be oriented to what the customer expects.

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BRING IN YOUR TEAMS

Automakers need to involve many disparate parties to innovate new and exciting ways to wow customers who are increasingly better-informed and more discerning in their choices.

Customer behavior is becoming more sophisticated, and there is a growing segment of customers who do a tremendous amount of research before stepping into a dealership. They demand to be persuaded to buy – and your competition is vying to tell them exactly why.

How do we turn ideas from the sketch board into a sale? Success lies in reaching diverse individuals with varied demands, and convincing them your experience is the best investment.

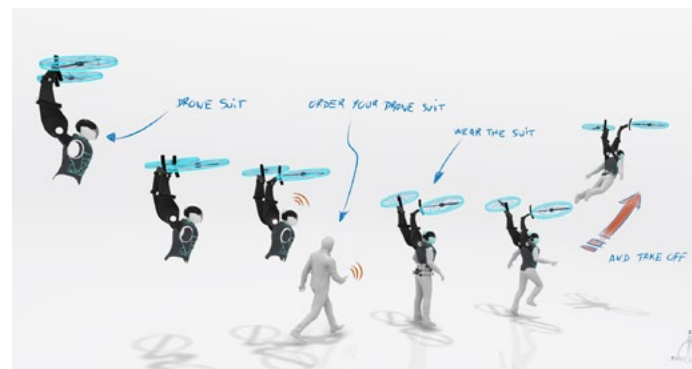
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The new vehicle creation process requires a new environment. The genesis, as we see in many great innovations, is the first “crazy” idea, born from unconventional thinking in fulfilling the needs of today’s customers.

As the idea takes hold throughout the organization, various teams need to meet on a common platform to ideate. It’s a place to facilitate being inspired by the evolving relationship between customers and their vehicles and to be able to imagine new, persuasive experiences for them.



Turn sketches into 3D models to validate your design concepts

Great ideas are contagious; they spread across the organization. Ideas become more powerful when they're enriched by others:

- **inside** the organization, involving design, engineering, sales, marketing and other teams; and
- **outside** the organization, involving suppliers and customers who communicate through social media, partners, regulators and other stakeholders.

Freedom is a necessary ingredient in crafting the best product and delivering a convincing experience that resonates with customers worldwide.



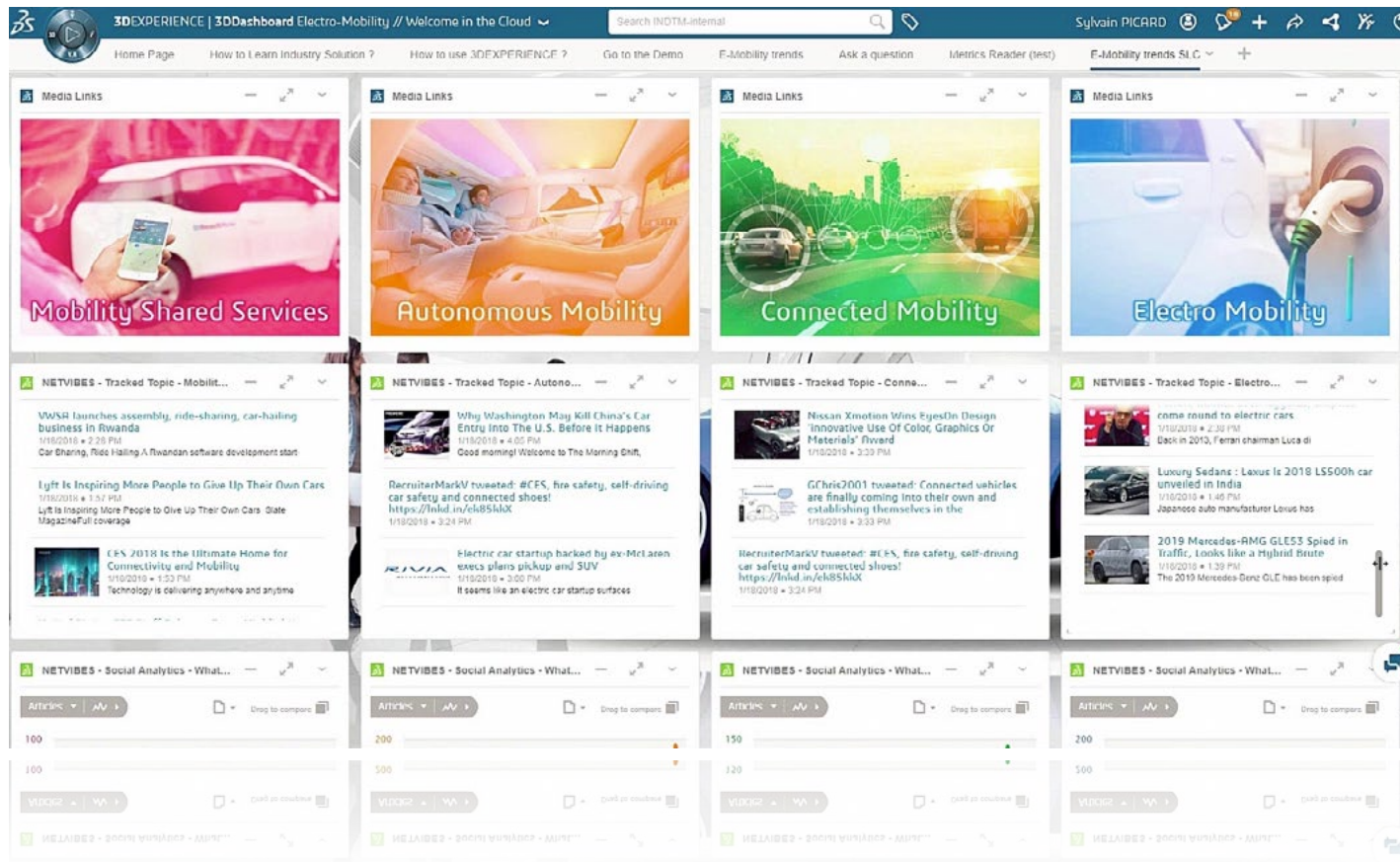
Design ideas are brought to life with CATIA in full 3D

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Hidden opportunities can only be uncovered if you are unconstrained by limitations that prevent you from perfecting the customer journey.

We have the solution for you to listen, learn and collaborate using information and ideas aggregated from the social web and enterprise data.

Instead of going out into the vastness of the Internet to piece together disparate data sets, our platform enables a feedback loop that's easily digested and shared. Tap into insights that are centered on social conversations about your industry and brand in real time.



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NETVIBES pulls information from every corner of the Internet to deliver the data that matters to you

Millennials might delay a car purchase due to unaffordability or opt to use public transport, whereas an older, more affluent individual might want a luxurious car that meets their family's wants and needs.

Automakers need to deliver a vehicle experience that speaks to a Market of One, and mass personalization must address different buyer scenarios, such as:



CORPORATE HIGH-FLIER

A 35-year-old corporate high-flier in Shanghai who desires a vehicle that fits with her cosmopolitan style. Her vehicle needs to express status, road presence and be fitted with the finest materials, from soft, luxurious Nappa leather to brushed aluminum and crystal LEDs. This is a customer who won't settle for anything less, and who knows what she wants.

FATHER OF TWO

The 50-year-old father of two boisterous teens in Paris for whom family comes first. He and his wife are considering a vehicle for the family. It has to be practical and spacious, but as it is a family vehicle, he places extra emphasis on safety and comfort. This is a customer who's thinking for four, but is at a place in life where "practical" need not mean "drab".



FRESH GRADUATE

A 25-year-old fresh graduate in San Francisco who is interested in leasing a car. She turns to social media to see what her options are and consults peer groups, friends and forums to further explore her options. Automakers need to know how society will influence her buying decision.

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CHAPTER TWO: GET IN TO DESIGN

The design experience of the future utilizes the right technology to enable real-time responsiveness from design, development, engineering, marketing and sales teams as well as clients and even potential customers. Demolish traditional silos to create your new customer experience.

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COLLABORATE TO MAKE IDEAS REAL

Having a great idea is a promising start. Automotive designers and engineers love to ideate, but their ideas are often constrained by technical and business considerations. Costs, materials ergonomics and manufacturability are points of contention in the tug of war between design and engineering.

Our solution provides a limitless virtual playground where strategic capabilities are available for teams to unleash ideas. They're free to design anything they can think of and explore new options for vehicle design. Our platform is open, flexible and powerful, and it can be seamlessly integrated with your global operations. It doesn't matter if your colleagues are on different continents – they just need to **get in** to collaborate.



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Imagine what you could achieve in a place where the distinction between the real and the virtual blurs to a point that physical prototypes could become obsolete.

While designers work on the vehicle concepts, bring in your ergonomics experts to give input in real-time. Ever wondered how materials will behave on sophisticated, new shapes? **Get in** to accurately visualize whether fabric, leather or other materials would work better on car seats. See if the fabric stretches and creases when you sit on it. Real-time visualization helps determine whether design layouts match engineering and ergonomics requirements.



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Bring in teams from any point on the globe to validate your latest virtual prototypes

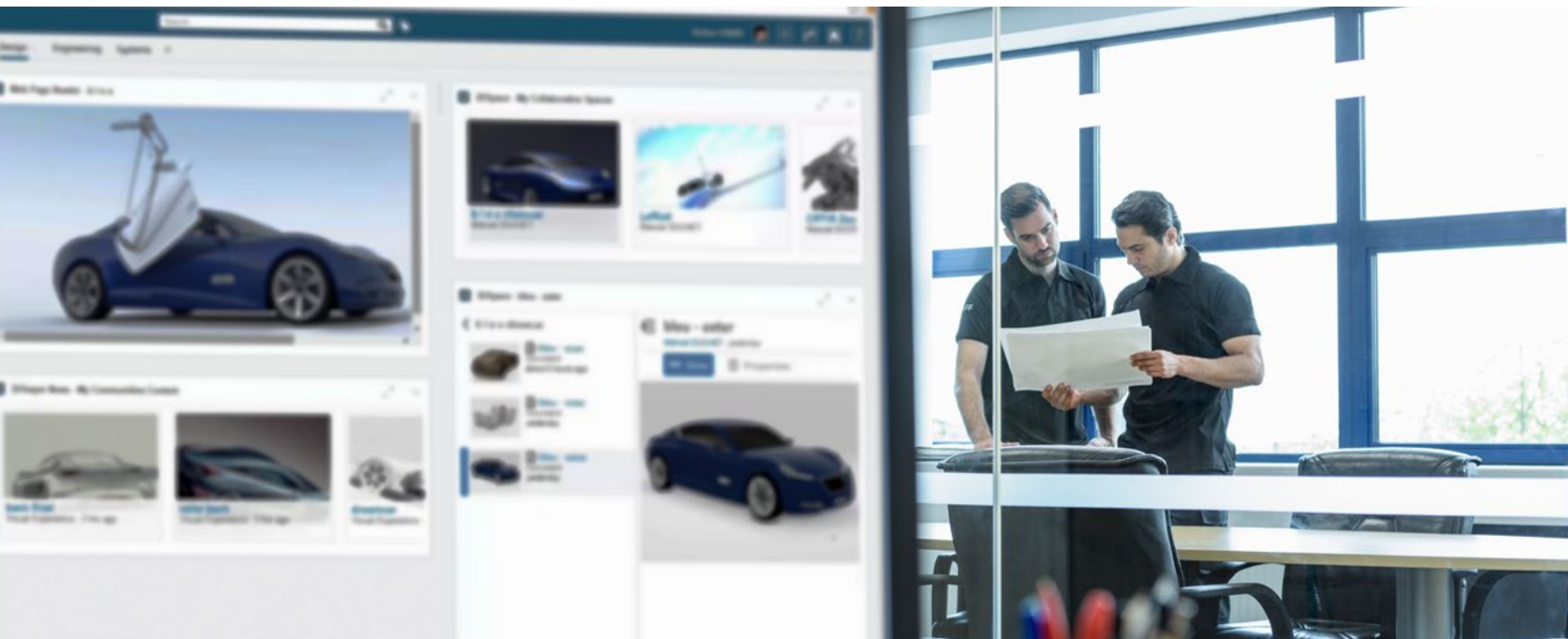
Imagine being able to validate the positioning, usability and design of your human-machine interface in true-to-life simulations that feel real in any virtual scene. Instead of wondering if your instrument clusters are properly focused on the driver and if passengers have enough leg and headroom, you can now **get in** the driver's seat to run tests and then make adjustments on the fly.

Want to communicate complex structural analysis results in photorealistic quality? Done. You have the power to maintain and reference one version of the truth between technical and non-technical teams. What's more, they can actually visualize what they're working on and how materials will emulate actual performance.

Get in your virtual vehicle in a virtual environment and experience your product in motion with lifelike driving scenarios before the first physical prototype is even built – or forgo prototyping altogether. The dynamics of the vehicle are physically correct, backed by powerful algorithms to help you validate the overall design concept and the vehicle's real-world performance.

Our solution enables instant and continuous visual and functional analyses, simulation and reviews of engineering designs. These designs can be rendered in highly realistic 3D visualizations that are fully capable of being rigorously tested in real time.

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Customers are looking beyond products and want in on an optimal experience. Brands that reorient their design strategies to drive these emotions are tapping into an incredible opportunity.

But *who* is a customer today? And more importantly, *where* is a customer today?

Global brands have to contend with a myriad of design considerations depending on the market they are operating in. Different regulations, requirements and trends in different continents are complex enough, but sometimes these changes take place over regional borders.

Our platform is able to accommodate highly complex requirements across markets and automate them in the design process, making it easy for automakers to implement new requirements and considerations in their vehicles. Then, involve anyone – from the decision-maker to focus groups – in this process, no matter where in the world they are, in real-time.



Drive Emotion enables you to create 3D sketches and validate virtual designs on the cloud or on-premise. Discover how you can unleash your design and engineering teams.

[> Explore Drive Emotion](#)

Concurrently, teams further downstream in the process can begin to think about how these vehicles will be presented to the customer through high-impact storytelling across multiple media channels.

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THE POSSIBILITIES ENABLED BY VIRTUAL DESIGN

"We are in the middle of a big transformation in transportation and mobility today because the customer experience is totally changing, so we cannot design like we used to. If you want to continue to work together in an efficient way and gain a closer understanding of your end customer's expectations, you'll need the right tools.

"The way your design studios and the engineering teams define and design new mobility solutions has to improve. Designing a vehicle that will be smart and integrated requires the designer to work closely with R&D and systems engineers collaboratively to design this next generation of cars. In fact, it's a new approach to the customer experience. It's totally changing the journey of customers' vehicle experience.

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– Xavier MELKONIAN,
Director of CATIA Design Portfolio

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"This is where the virtual world can help through virtual prototyping and creating three-dimensional experiences. It is a world of immersive collaboration. In the past, if you needed to do a design check, you had to send a physical mockup to a certain location on the other side of the planet and then bring everybody around the globe to the same location, which can be very time-consuming and costly. Now, with a head-mounted display, the democratization of the virtual world enables teams, within a few minutes, to engage in a worldwide collaboration session together to review designs and customer experiences. It's helping to make better and quicker decisions.

"With the virtual prototype, you can do much more iterations of tests, of trials or ideation. To integrate all these high technologies in your next vehicle, you also have to test out this element, which is also difficult to do on a physical prototype. You need to do this to be sure you satisfy the customer, who expects a certain level of quality. The expert in design can simulate visually, with physically correct presentation — the gap, flush, shadows of the car, quality of the carpet, human-machine interface display, or even the windscreen.

"This is something Dassault Systèmes provides for our customers so they can create, imagine,

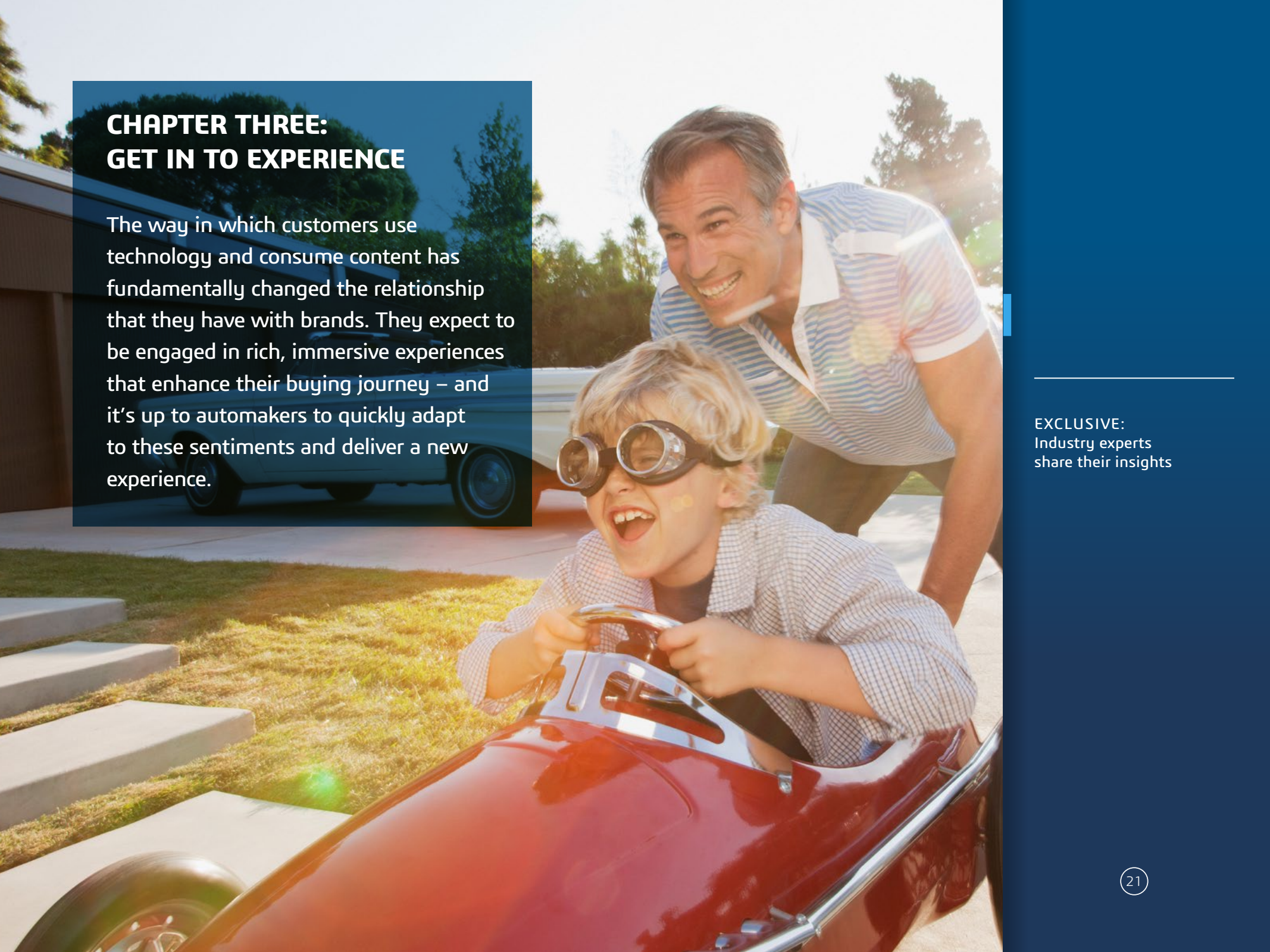
reproduce and test virtually, all of which is rendered physically correct and can be visualized in real-time. You can avoid design mistakes and explore a lot of ideas without the need to wait for physical prototypes. We also provide human avatars that give designers the ability to design the product taking into account in the human context and how customers interface with vehicles.

"It's valuable for your customer to have an innovative product; you can't sell just a basic car now with four wheels. You need to sell experiences, and this creates a lot of value for the customers. This is the new customer experience."

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CHAPTER THREE: GET IN TO EXPERIENCE

The way in which customers use technology and consume content has fundamentally changed the relationship that they have with brands. They expect to be engaged in rich, immersive experiences that enhance their buying journey – and it's up to automakers to quickly adapt to these sentiments and deliver a new experience.



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IN SAN FRANCISCO

The 25-year-old fresh graduate interacts with a vehicle lease portal and an engaging vehicle experience helps her select the right blend of technology and creature comforts afforded by the price point that she has indicated.

IN PARIS

Our family man is able to visualize, in 3D, putting boxes into the trunk of his hybrid estate car to ensure that he and his family have enough cargo carrying capacity for their adventures.

IN SHANGHAI

We see our corporate high-flier customize quilted Nappa leather seats on her luxury sedan in a virtual environment and switch between different mood lighting to see how the color palette works together.

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TELL A NEW STORY

Customers are strongly attuned to social interaction and ritualistic behavior. As online shopping models become more effective, and multi-channel content deployment matures, the need for personal contact with dealers or OEMs will continue to decline. At the same time, customers are expecting increasingly personalized brand experiences that are currently being unmet.

Our solution enables you to tell a new story. It integrates and rejuvenates your sales and marketing environment as well as significantly reduces overhead costs associated with traditional methods.

You can deliver a new customer experience with flexible, three-dimensional visualization throughout the content and experience creation



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pipeline by using CAD data from earlier points in the vehicle development process. This allows you to plan your vehicle launches while ideas are brought to life by designers and engineers at earlier points of the development process.

Then, access and re-use this 3D data anywhere in the world to support local product launches and marketing campaigns from one, reusable, customizable source. The way to deliver a new customer experience overcomes the existing challenges of traditional CGI, video and photoshoot productions while meeting the demands of new content mediums and technology like virtual reality and WebGL.

Thanks to intelligent processes and cutting-edge technology, departments can join forces to develop and share product information across the enterprise at an early stage, taking internal awareness of new products to a new level. Now, global marketing teams are only a mouse click away from the latest visualization of future products, allowing them to fine-tune to local requirements and plan launch events before the vehicle is built.

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Let your customers explore endless variations when customizing their vehicle

With these capabilities in hand, automakers can create powerful brand experiences that can be finally attuned to any stage of the customer journey, thereby greatly extending the reach of their customer engagement.

Professional 3D visualization technology presents stunning concepts and storyboards that are both cost-effective and technically feasible. Cover not just one product configuration, but also ranges of variants, localized versions and special editions.



Within this immersive experience, be free to showcase your complete product range. Augmented and virtual reality experiences can be set up at events, entertainment venues or anywhere your global operations engage customers.

Potential customers can **get in** to experience a reality where all possible combinations of variants, materials, colors and accessories in highest visual quality and interactivity. Then, seamlessly generate pricing or performance characteristics in real time as customers customize their vehicles.

This experience sets the stage for an always-on conversation that you can have with customers that further nurtures buying intent and customer loyalty.

In a market where customers are put off by long wait times at dealerships, anything that keeps them engaged shortens the sales cycle and strengthens the try-to-buy progression.

Get in to create experiences that keep customers engaged and convert leads into sales success.

Customers can experience both the interior and exterior of their choice vehicle in photorealistic locations

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CREATING EXCITING RETAIL EXPERIENCES

"Big-name dealerships are already reinventing themselves and will continue to do so with speed. What this means for smaller automakers is that they will have to play catch-up even more. The need to reinvent the retail experience based on what customers are expecting to see at those points of retail is becoming more apparent in an increasingly competitive transportation and mobility landscape.

"Dassault Systèmes' involvement with PSA's DS Automobiles is an example of the new retail experience. In its Virtual Vision, DS Automobiles is not just using virtual reality (VR) as a kind of technological showcase but they've really looked at how to embed VR within their sales and customer engagement process. And that

“ [U]tilize our tools (so) your sales and marketing teams can work in tandem with design and engineering teams cohesively to deliver a new customer experience before the first vehicle is even assembled. This allows you to engineer excitement into your vehicles.”



– Dominic KURTAZ,
CEO 3DEXCITE

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retail strategy helps them sell vehicles, which is the most important thing to an automaker, but they've also taken the level of configuration and context for customers to a much deeper level.

"They've used Dassault Systèmes tools to do deep experience configuration. Their end customer can see via VR exactly what their vehicle will look like. The best part is, you can do the same. You can take source data from your engineering and design teams and utilize our tools to extend the functionality of our platform to create emotional assets for an amazing sales and marketing experience. This means your sales and marketing teams can work in tandem with design and engineering teams cohesively to deliver a new customer experience before the first vehicle is even assembled. This allows you to engineer excitement into your vehicles.

"This is crucial in the current transportation and mobility landscape. When I think like a customer, because I am one myself, I go into the dealership with, at a minimum, as much knowledge about the product as the actual salesperson I'm speaking with. And, of course, I'm more knowledgeable about my particular lifestyle requirements. So, really, the only point of discussion when I get to the dealership is one of price.

It is incumbent upon brands to build an additional level of value into the dealership networks. What value can dealerships provide in order for customers to make the right buying decision?

"I recently bought a large sedan as a mid-40s guy with two children. Is this large sedan the best proposition from the automaker to me? I don't know. It was the choice that I made myself. Am I a hundred percent convinced that was the right vehicle to buy? No, but nor do I have access to the information in order to make that decision.

"It should have come from the dealership network guiding me through that last few steps. So there's no question that dealerships and the dealer network have a strong future. They just have to find a new relevance in this digital economy and they can only do so with the right solution that enables them to deliver what customers really want."

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As the traditional constraints of technology give way to how we engage with content, the marketing experiences that we create need to be able to be reshaped for any scenario in a cost effective and scalable way.

The **3DEXPERIENCE®** platform along with other Dassault Systèmes solutions enables this by creating a content and experience creation framework that can be used by OEMs and their channel partners for effective sales and marketing activities on one platform. There is no more need for fragmented solutions from a variety of vendors.

A series of **3DEXPERIENCE®** options are available on-premise or via the cloud and links all your teams — from marketing to sales to engineering — in a collaborative, interactive environment.

Watch this exclusive webinar to discover how to create appealing design experiences and ensure accurate decisions when creating your new vehicle. > [CATIA webinar](#)

Our **3DEXPERIENCE®** platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE®** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.



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