

# Technology

## Back to the Future: Tech Press Releases from 2030; 2021 Tech Top Picks

**Baird's technology analysts went back to the future and grabbed press releases and announcements that will define the technology landscape in 2030.** This report compiles Baird's technology analyst's findings from 2030, along with top ideas for 2021. We hope you will find these readings enlightening and entertaining. Participating analysts include Tristan Gerra (Semiconductors), Luke Junk (Vehicle Technology & Mobility), Ben Kallo (Energy Technology & Resource Management), Rob Oliver (Software & SaaS), Will Power (Cloud Software), Jonathan Ruykhaver (Security and Infrastructure Software), and Joe Vruwink (Vertical Software).

- **Highlighted Stories and 2021 Top Ideas** (Please see the details section for all 2030 sector press releases/announcements):
- **Cloud Software:** 10,000 customers now using Zoom's in-meeting VR experience; Apple unveils the iCar 4 with significantly upgraded specs; On path to obsolete the bullet, Axon unveils Taser X; UCaaS market crosses 50% penetration.  
- **2021 top ideas:** FIVN, RNG, TWLO
- **Energy Technology & Resource Management:** Electric Vehicles represent 30% of global new vehicle sales; Tesla announces the completion of its eighth gigafactory and launches production of the Tesla Bus; Tesla Energy to be spun off; Bloom Energy begins delivering its third-generation hydrogen fuel cell; First Solar introduces next generation panel technology; Sunnova marks its 1,000,000<sup>th</sup> customer; SpaceX launches mission to land a crew on Mars.
- **Security and Infrastructure Software:** Cloudflare kicks off its 20th Birthday Week; CrowdStrike named endpoint security market share leader for ninth consecutive year; ProofCast launches support for new Microsoft Worlds virtual workspace platform.  
- **2021 top idea:** Dynatrace (DT)
- **Semiconductors:** Intel launches Pyramid Lake next-gen Xeon/Optane/FPGA platform, expands Loihi neuromorphic computing platform, and de-emphasizes PCs; AMD launches Potenza all FPGA-based server architecture; Nvidia introduces Fresnel DPU architecture; Qualcomm hits 15% market share in notebooks.  
- **2021 top ideas:** large cap: QCOM; mid cap: SWKS; small cap: SQNS, HIMX. Contenders (large/mid cap): AVGO, SMTC
- **Software & SaaS:** At Dreamforce 2030, Salesforce announced updates to its "Virtual Enterprise" including Virtual sales and service and fully predictive sales, marketing and service platforms. TAM increased to \$300B.  
- **2021 top ideas:** SPT, MDLA
- **Vehicle Technology & Mobility:** Visteon celebrates GM Ultium 10 million vehicle milestone; Aptiv's Motional hails Lyft's upcoming full transition to robotaxis in all major US markets; Gentex unveils Apple Pay integration with Integrated Toll Module (ITM); Littelfuse applauds deployment of 500,000 public EV charging stations; Sensata highlights 75 billion smart & connected fleet miles.  
- **2021 top ideas:** VC, APTV
- **Vertical Software:** Autodesk celebrates VFX Academy Award winners using M&E software; Bentley recognizes Jakarta Mass Rapid Transit project at YII2030; Guidewire announces Vail Release with CollisionNow Instant Claim Settlement; PTC named Microsoft's Global Manufacturing Partner of the Year for innovation in spatial computing; Synopsys introduces Cold Fusion Compiler for Superconducting Electronics.  
- **2021 top ideas:** ADSK, PTC

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**Please refer to Appendix  
- Important Disclosures  
and Analyst Certification**

## Details

Back to the Future: **Cloud Software** Press Releases and Announcements from 10 Years Ahead, Along with Baird's Top Cloud Software Picks for 2021

- **Zoomtopia, October 14, 2030: 10,000 customers now using Zoom's in-meeting VR experience.**  
 "At Zoomtopia two years ago, we announced one of the largest improvements to the video meeting experience in the history of the industry: in-meeting virtual reality. Because of that announcement, users and businesses no longer had to make the hard choice between convenience and meeting in-person. Users of Zoom Meetings were given the option to escalate their meeting to a virtual reality experience with up to 10 participants. This was a groundbreaking use of the virtual reality technology we acquired the year prior. Today, we announced over 10,000 customers are now using the in-meeting VR experience. This follows our announcement last year that 100 customers have adopted the full in-meeting VR capability. We are also announcing support for five additional headset partners, making Zoom VR compatible with all major VR headset manufacturers. We are encouraged by the speed and enthusiasm with which our customers and partners are adopting this exciting new technology."  
 - Zoom has continued to separate itself as the gold standard in the video meetings space and this announcement proves its competitive moat and differentiation continues to widen. As it has continued to enhance the in-meeting experience and expand into adjacent products, its customers have become increasingly entrenched in its platform. Its large customer base has continued to adopt more Zoom products and capabilities, strengthening the power and stickiness of its platform.
- **Apple Special Product Event, March 20, 2030: Apple unveils the iCar 4 with significantly upgraded specs.** "Today, we are introducing the iCar 4, the smartest, fastest, and most powerful car we have ever created. The iCar 3 was extremely well-received by customers, with the seamless integration between software and hardware met with overwhelming enthusiasm. Today, we are significantly enhancing both the hardware and software, reaching a new level of performance. Starting at \$125,000, the iCar 4 can hit 60 MPH in 1.5 seconds with a top speed of 300 MPH. Because of our innovative battery technology, it can travel 700 miles on a single charge and charge up to 300 miles in 15 minutes. The iCar 4 features the in-car experience Apple users know and love, in addition to enhanced software and sensors making the iCar 4 fully autonomous. At Apple, we have a relentless focus on customer experience, and we are thrilled to be able to continue to delight our customers with cutting edge innovation."  
 - The iCar has opened up a new product category for Apple over the past few years. Though we don't expect it to become a significant driver of revenue near term, the multi-trillion dollar auto TAM and Apple's superior brand recognition and hardware/software interoperability positions the iCar to become a meaningful part of the business over time. Apple has continued to strengthen its ecosystem, and we believe the iCar is a key part of that strategy.
- **Axon Accelerate, May 1, 2030: On path to obsolete the bullet, Axon unveils Taser X.** "We laid out a vision almost 10 years ago that we would develop a Taser so safe and effective, that it would obsolete the bullet. We believe that day has come. Today, we are introducing our latest Taser, Taser X, a complete redesign from the ground up. Some of the many enhancements include close-range and long-distance optimization, more effective probe spread, improved reload ability, enhanced connectivity with the Axon network, and more durable and weather resistant design. With these enhancements, the chance of safely incapacitating the target goes up significantly. We believe the Taser X will be the primary means for a police officer to stop a threat, saving lives in the process."  
 - Axon has continued to innovate and improve its Tasers, with a dominant share domestically and growing international presence. Domestically, with this announcement, police officers may increasingly turn to Tasers as their go-to option in virtually every situation. We believe this new Taser should spur a significant upgrade cycle through 2031 and 2032.
- **Enterprise Connect, March 18, 2030: Cloud penetration in UCaaS market surpasses 50% mark.**  
 "According to Frost & Sullivan research, the UCaaS industry has now surpassed on-premise in number of global telephony seats. Now with an installed base of 201 million seats, the UCaaS industry has grown at a 15% CAGR since 2021, with ample growth opportunity ahead. The industry shift to

UCaaS should continue as the flexibility and feature gap between UCaaS and on-premise continues to widen.”

- Even as we cross the 50% penetration mark, there are still almost 200 million global seats primed to convert from on-premise to cloud. We see a continued opportunity for the leading UCaaS players to replace the remaining on-premise seats over time. There are still segments of the market, such as enterprise and international, that are far less than 50% penetrated, and we believe those providers with advantages in those segments are best positioned.

- **Top Cloud Software ideas for 2021: FIVN, RNG, TWLO**

- **FIVN:** FIVN, and cloud contact centers in general, have been key beneficiaries of the pandemic, accelerating revenue growth from 27.3% in 2019 to 33.9% in Q3'20. Contact centers have become the new front door to commerce and a key customer communication platform for businesses. We believe we are in a new normal, with the acceleration in online retail activity likely to continue benefiting FIVN in 2021. Within the \$24 billion TAM (which is only 15% penetrated), businesses are increasingly adopting cloud solutions given feature and flexibility advantages made more important by a work from anywhere environment. In addition to strong core trends, FIVN has started to generate meaningful traction internationally as well as with its partner network, both of which should be additional drivers in 2021. AI is starting to contribute in a more meaningful way, which opens up yet another revenue driver and a larger TAM. FIVN is one of the most profitable high-growth companies we track, with an adjusted operating margin of 14.2% in 2019 and 17.2% in Q3'20. It currently trades at ~25x 2021 revenue, high by historical standards but below the high-growth group at about 29x.

- **RNG:** RNG has separated itself as the leader in the UCaaS market, competing in a \$50+ billion global TAM that is only ~10% penetrated. It has consistently grown revenue over 30% while generating healthy and growing margins. Software revenue growth accelerated slightly from 32.0% in Q2 to 32.6% in Q3 driven in part by work from home and partnership tailwinds, with an adjusted operating margin of 10.2% in Q3. The pandemic has likely accelerated the decision to move from on-premise to cloud for many businesses, including large enterprises that typically take longer to transition. While competition has increased, particularly from Microsoft and Zoom, RingCentral has put in place a robust distribution network that positions it well to capitalize on the rapid shift to cloud. Its Avaya partnership in particular could be a significant growth driver for years to come, with 2021 potentially the first year of more meaningful contribution. Its other partnerships with the likes of AT&T, Atos, Alcatel-Lucent and Vodafone should also provide tailwinds to growth in 2021+. RNG is currently trading at ~27x 2021 revenue, below the high-growth group at about 29x despite the opportunity to potentially accelerate revenue growth.

- **TWLO:** 2020 has proven the resilience of TWLO's business. Many believed its exposure to ride sharing, travel and hospitality would outweigh any positives driven by the pandemic, including video APIs and contact center. Because of the broad diversification across industry and product, its exposure to impacted industries turned out to be far less than anticipated and the benefits from other industries more meaningful. Digital transformation has significantly accelerated, and companies now more than ever need to invest in digital customer engagement. TWLO has established itself as the undisputed leader in communication APIs, with a widening geographic, product and developer moat. TWLO guided to 30%+ organic revenue growth in each of the next four years as it helps its customers along their digital transformation journey, signaling its confidence and optimism. Its recent acquisition of Segment further separates it from its competitors and positions TWLO as a must-have for digital transformation. TWLO is currently trading at ~25x 2021 revenue, below the high-growth group at about 29x despite faster-than-average growth, strong forward outlook and a wide competitive moat.

Back to the Future: **Energy Technology & Resource Management** Press Releases and Announcements from 10 Years Ahead

- **IEA Announcement, June 1, 2030: Electric Vehicles have hit ~30% of new vehicle sales.** After a decade of technological advancement and policy actions to encourage adoption, EVs have become a mainstay on the road globally. EU's CO2 emissions standard, zero-emission vehicle mandates, and China's New Energy vehicle mandate have driven increased adoption through purchase incentives and emissions restrictions. During the period, significant advances have been made in battery technology reducing the price below \$75/kWh and enabling OEMs to produce cost-efficient passenger vehicles.
  - After representing <2% of new car sales in 2019, EVs were significantly underpenetrated and as technology advanced and charging infrastructure was established, worldwide penetration continued to grow at rapid rates. The EV30@30 campaign, which includes Canada, China, Japan, India, France, and several other major nations, set a goal in 2017 of reaching 30% EV share by 2030. With policy tailwinds and the extensive amount of capital that has poured into the space, this goal proved to be achievable.
- **TSLA Battery Day, October 11, 2030: TSLA announces the completion of its eighth gigafactory and launches production of the Tesla Bus.** "We continue to build our production capacity to support the rising demand for the Cyber Truck and recently completed construction of our eighth gigafactory. This new factory has been designed to support production of the newly released Tesla Bus, a 10-15 passenger vehicle designed to utilize The Boring Company's tunnels for small-scale public transportation."
  - TSLA has continued to innovate and announce future expansions into other vehicle categories. In recent years, TSLA has finished developing several commercial vehicles and is in the process of pushing into additional markets to diversify from Class 1-3 passenger vehicle offerings.
- **TSLA Analyst Day, September 20, 2030: TSLA announces that the energy segment will be spun off into a separate publicly traded business, unlocking additional shareholder value.** "After significant recent growth in the Tesla Energy business, we have decided to spin it off from TSLA. As a standalone company, Tesla Energy will be better positioned to continue its growth in the energy storage and solar spaces."
  - During the 2020s, Tesla Energy contributed substantial earnings to TSLA. Megapack deployments expanded rapidly and the Autobidder product enabled significant growth. Due to the substantial growth in energy generation and storage, Tesla Energy now has grown to a size rationalizing a standalone public company.
- **BE Analyst Day, December 13, 2030: BE announces they have begun shipping their third generation hydrogen fuel cell.** After the deployment of their first hydrogen fuel cells and electrolyzers in 2022, BE has focused on expanding the technology into other end markets. Using a partnership with a major commercial vehicle OEM, they will now be providing servers for a new line of hydrogen powered class 8 vehicles.
  - After initially discussing the opportunity to expand into hydrogen on an investor call in 2020, BE has continued to focus on what they see as a massive market opportunity. BE's fuel cell technology has been readily translatable to hydrogen production and they continue to see meaningful opportunities to expand in the space.
- **FSLR Q3 Earnings Call, October 28, 2030: FSLR announces they are introducing next generation panel technology, leading to reduced panel costs (\$0.12/watt) and additional opportunities in residential and commercial markets utilizing BIPV (building integrated PV).** "With our continued R&D into the utilization of Cadmium Telluride (CdTe) and scale efficiencies from the completion of new manufacturing facilities in India and Germany, we are proud to announce that we have reduced cost per watt to \$0.12 in our next generation panels. The credit goes to our R&D team, which has made significant strides in building upon our proprietary thin film solar technology to further reduce production costs. Additionally, the new technology is readily applicable for the residential and commercial markets, significantly expanding our addressable market."

- During the 2010s, the LCOE of utility scale solar declined dramatically from \$0.38/kWh in 2010 to \$0.07 in 2019 (Source: International Renewable Energy Agency). With regulatory actions throughout the 2020s to improve cost-effectiveness (e.g., \$1.5B in dedicated R&D through 2025 in the 2021 U.S. spending package) and increasing demand, costs continued to decline. As a leading technology provider in the solar space, FSLR has been well positioned to significantly reduce costs and expand its offering into other markets.
- **NOVA Press Release, March 22, 2030: NOVA marks its 1,000,000<sup>th</sup> customer, making it one of the largest energy service providers in the United States.** "Today, we successfully signed a solar and energy service agreement with our 1,000,000<sup>th</sup> customer. This accomplishment makes NOVA one of the largest energy service providers in the U.S. In recent years, we have devoted significant resources to improve our energy service software offerings to further differentiate our solar panels and energy storage products from competitors. This achievement demonstrates how that investment has paid dividends."
  - In 2020, NOVA's management team frequently touched on the opportunity to expand into energy-as-a-service offerings. In recent years, combining NOVA's vast and rapidly growing installed base of solar panels and energy storage systems with software has created additional revenue streams for NOVA and driven customer growth.
- **SpaceX Announcement, December 2, 2030: SpaceX announces that the first crewed mission to land on Mars will launch later this month.** "We are in the process of completing final safety checks for our mission to send a crew to Mars in a couple weeks' time. This mission will be the first of its kind and a key point in our goal of developing a settlement on Mars. The crew will be performing atmospheric tests, evaluating sites for future missions, and establishing initial communications infrastructure. The mission is expected to arrive at Mars sometime in May 2031."

Back to the Future: **Security and Infrastructure Software** Press Releases and Announcements from 10 Years Ahead. Along with Baird's Top Security and Infrastructure Software Pick for 2021

■ **Cloudflare Birthday Week, September, 22, 2030: Cloudflare kicks off Birthday Week 2030.**

"Today, Cloudflare announced the start of its celebration of our 20<sup>th</sup> Birthday Week, our annual tradition of giving gifts back to the Internet. Throughout the week, we will be launching new products and hosting a variety of conversations with customers and industry leaders. As the first of our gifts back to the Internet, tomorrow, we change the way you—that's right, you—interact with Cloudflare and the Internet itself. The Cloudflare App has come a long way since its origins as a humble DNS resolver, and we are so excited for you to begin the next stage of your journey with Cloudflare tomorrow. Cloudflare CEO Matthew Prince on the start of Birthday Week 2030: 'When Michelle, Lee, and I started Cloudflare 20 years ago, we could have only dreamed of reaching the size and reach we have today. While we have become the premier solution for delivering enterprise security and networking functionality, we have never forgotten our core mission of building a better Internet. While, last year, we held 24 different 'weeks' to highlight the constant product innovation taking place at Cloudflare, Birthday Week remains my favorite. We are so excited for the week's product announcements, and are ever-grateful for the role our users, customers, partners, and employees have made in keeping Cloudflare the great company it is today. #justgettingstarted.'"

- Cloudflare has maintained its strong pace of innovation over the last 10 years, and while the company has become a leader in providing enterprise solutions, it has maintained its commitment to building a better Internet and rapid pace of innovation.

■ **Press Release, June 11, 2030: CrowdStrike named endpoint security market share leader by leading independent research firm.**

"For the ninth consecutive year, CrowdStrike was named the leading vendor in IDC's updated endpoint security market shares, 2029 edition. IDC's report also found CrowdStrike continued to grow faster than the overall market, further increasing its market share in 2029. CrowdStrike CEO George Kurtz, on the IDC report: 'We are pleased to see customers continuing to choose the Falcon Platform for their endpoint security needs. While we have improved and evolved our platform since our founding, we have never forgotten our core focus on protecting the endpoint, and we see the latest market share data as customers' validation of these results. While we always appreciate this type of recognition, we will never slow in working towards our goal of delivering customers the best possible protection, and I look forward to discussing our latest innovations with our users at Fal.Con 2030 this October.'"

- In CY21, CrowdStrike took over as the leader in endpoint security market share, and the company has not looked back as it continued to build out its Falcon Platform.

■ **Microsoft Ignite 2030, September 16, 2030: ProofCast, the leading collaboration security and archiving platform, announces support for Microsoft Worlds.**

"In conjunction with this week's Microsoft Ignite 2030 conference, ProofCast, the leading collaboration security and archiving platform, announced support for the new Microsoft Worlds platform. Microsoft Worlds, Microsoft's new virtual workspace platform, allows companies to collaborate from across the world through an immersive VR experience in as well as video/audio calls and written messages. With the launch of its solution for Microsoft Worlds, ProofCast now supports all leading next-gen collaboration platforms, including Zoom Everywhere and Apple iDiscover for Enterprises. From ProofCast, on today's announcement: 'ProofCast remains committed to providing best-in-class security and archiving functionality for all of today's collaboration platforms. While we began with humble beginnings in email security, over 55% of Proofpoint customers are now using our technology in conjunction their modern collaboration platforms. We are excited to see the launch of Microsoft Worlds and look forward to working with all enterprises in need of a top collaboration security and archiving solution.'"

- In this hypothetical, leading email security companies Proofpoint and Mimecast have merged. As collaboration has come to encompass much more than just email, the combined firm has kept up with this change to secure new collaboration platforms.

■ **Top Security and Infrastructure Software idea for 2021: DT**

- **DT:** Near term, we like the setup for Dynatrace as we believe management has taken a prudent approach to guidance and see potential for the company to post upside to these numbers. Looking



out through 2021, we expect we will see a friendlier spending environment for APM/observability solutions than we saw in 2020, particularly for cloud solutions, a positive for Dynatrace. The company has continued to make investments in its sales organization throughout the pandemic, and with the conversion of customers to the new Dynatrace Platform now substantially complete, we expect these factors can combine to help the company continue to drive growth within the install base in addition to the acquisition of new customers. Additionally, Dynatrace offers a solid financial model, especially when considering its growth, and we believe strong operating margins can help support potential downside if investors become less aggressive in chasing high growth. Overall, we see Dynatrace as well-positioned in enterprise observability and expect the company can show continued execution in 2021.

Back to the Future: **Semiconductor** Press Releases and Announcements from 10 Years Ahead, Along with Baird's Top Semi Picks for 2021

- **Analyst day, May 8, 2030: Intel is expanding its Loihi family of neuromorphic neural AI processors. Loihi combines training and inference and adapts to its environment learnings.** Intel is by far the leader in these next-generation, ultra-low power processors with a neuromorphic-based architecture which mimics the brain functions and assimilates data from its surroundings. Loihi has started to take market share away notably from GPUs in AI inference applications.
  - With Mobileye and Loihi (AI in the car), Automotive now represents a critical revenue growth driver for Intel.
- **4Q30 earnings, January 23, 2031: Intel launches Pyramid Lake and announces it will de-emphasize the mainstream PC market.** "While Intel will still address the high-end PC market, the company will continue to focus its world-leading design and packaging capabilities on the high-margin data center, automotive, and infrastructure markets. Pyramid Lake best exemplifies Intel's 3D packaging capabilities, combining a high-performance Xeon core and Agilex FPGA architecture synergistically on a single die."
- **Analyst day, November 19, 2030: Qualcomm announces Snapdragon has reached a 15% market share threshold in notebooks, and discusses the adoption of 6G** in robotics, automotive, and industrial applications.
  - ARM-based architectures now represent 60% of all notebooks, including all of Apple's offering, Chromebooks, China-based notebook OEMs, and 2-in-1 form factors.
  - Apple's M10 PC processor is now ramping, and Apple's move to its own ARM-based architecture in 2020 has resulted in an entire software ecosystem shift promoting the adoption of ARM-based architectures in PCs.
- **ADF (AMD Developer Forum), October 1, 2030: Lisa Su announces Potenza, AMD's first all FPGA-based server architecture.** "With Potenza, AMD is redefining the direction of parallel processing architectures to address pervasive AI-based workloads in data center with a world's leading, ultra-low latency architecture. Key features include FPGAs sitting directly on the network and our Vitis unified software platform. Well beyond FPGA-based acceleration, Potenza delivers on AMD's vision of FPGAs deploying from cloud to edge and to IoT. We are pleased to announce that Microsoft has chosen Potenza for one of its next-generation AI platform."
  - As traditional CPU-based data center architectures have decoupled from historical declining cost curves, and as unified software platforms finally fulfill the decade-long promise of hardware decoupled from the architecture, FPGAs are finally poised to rapidly expand in data center, leveraging ultra-low latency back-end along with networks superimposed on front-end networks.
- **GTC, October 7, 2030: Jensen Huang announces Fresnel, the world's most integrated DPU.** "Fresnel builds on a decade of DPU experience to offer world class GPU acceleration, robust smartNIC CPU offloading capabilities, and ARM-based general-purpose compute." DPUs continue to gain market share in data centers, bringing data center compute back on a cost reduction path while offering architecture-optimized workloads. The use of smartNICs in servers is now pervasive, with Nvidia enjoying the leadership market share position.
- **Skyworks reports on the growth opportunities ahead for its 95GHz-3THz (6G) RF technology** for industrial, robotics, and 3D immersion applications. "While still in the early days of this technology, 6G fulfills the promise of massive wireless bandwidth feeding complex 3D applications in industrial automation, robotics, and consumer. V2X (Vehicle to Everything Communication) and 3D immersion technologies offer notably large volume opportunities ahead."
- **Lattice's 3Q30 earnings, October 29, 2030: Jim Anderson reports on the volume ramp of Speedster 2t.** "We continue to be pleased with the progress made with our acquisition, and our 2nm-based Speedster 2t FPGA is now in volume production and shipping to multiple tier-one OEMs." Lattice's expansion into high-compute FPGAs, similar to Lattice's initial foray into FPGAs with its acquisition of Agere Systems' FPGA unit in 2002, has been driven by industry consolidation and Lattice's position as last-standing FPGA pure play, catering to the needs of a diversified customer



base with notably an emphasis on 6G infrastructure, L5 autonomous vehicles, robotics, and pervasive AI applications.

- **The Things Conference, January 28, 2021: Mohan Maheswaran, CEO of Semtech**, announces that LoRa has hit a \$1B revenue threshold. "LoRa's momentum continues, fueled by applications including home IoT, automotive, industrial, smart cities, and robotics. Our Lacuna Space acquisition significantly expands LoRa use cases via satellite operations across borders and in remote areas of the world."
- **LIDAR 2030, September 24, 2030: Velodyne 's Dr. Anand Gopalan comments on the rising adoption of L5 technology in automotive along with the sub \$10-based Velabit lidar.** "L5 represents the next cornerstone of lidar adoption in autonomous vehicles and flying taxis. By announcing today the first sub \$10-based Velarray lidar in volume production, we are particularly well-positioned to expand our leading position into the mass market notably in price-sensitive applications including automotive, prosumer and robotics."
  - Velodyne has completed the acquisition of Imertive, a pioneer in the use of laser technologies for headset-free 3D immersion experience. The acquisition leverages Velodyne's laser and ASIC technologies to expand into the large-TAM 3D headset-free virtual reality market, with emerging applications ranging from gaming to 3D immersive video calls.
- **Top Semiconductor ideas for 2021** - large cap: QCOM; mid cap: SWKS; small cap: SQNS, HIMX. Contenders: AVGO, SMTC
  - **QCOM:** Qualcomm is at the center of the unfolding 5G secular cycle. Key drivers for the stock in 2021 include an expected >2x YoY growth in 5G phone units, expected market share gains in China given the Huawei backdrop, along with expansion of 5G use cases beyond smartphones to multiple end markets. RF represents a significant incremental revenue opportunity, characterized by high ASPs, ever-growing content, and market share gains. Qualcomm's RF technology has now found significant traction at the two key smartphone OEMs, along at other OEMs. Finally, ARM-based processor architectures are on the cusp of mass adoption in notebooks, and we expect ARM adoption rate in notebooks to exceed 8% in 2021, versus less than 2% in 2020, due to Apple's M1 push to drive significant expansion of the ARM-based ecosystem into notebooks and ramps in ARM-based Chromebooks starting in 2021.
  - **SWKS:** Skyworks remains a core holding on the 5G secular growth theme. In mobile, we expect 5G smartphone units to more than double in 2021 along with ongoing content increases. Additionally, C band represents an incremental RF content opportunity in 5G phones for 2021. We also expect Skyworks to benefit from Huawei's share losses via a stronger incumbent position at other smartphone OEMs including Samsung. Besides smartphones, broad markets should experience a very strong reacceleration next year as 5G use cases expand into a variety of applications such as industrial IoT and automotive. Gross margin should benefit from mix and the removal of covid-related charges.
  - **SQNS:** We believe Sequans revenue can sustain 40% CAGR driven by secular growth trends in Massive IoT. For 2021, we expect Cat M to grow 2x YoY, Cat 1 up 30-40% YoY, and strategic agreements and verticals up 70% YoY. Cat M/NB design win pipeline is now near \$400 million, while China and India represent key opportunities for NB-IoT. Ongoing partnerships with top-tier MCU players (Microchip, NXP, STMicro, Renesas) and distributors (Avnet) offer strong growth potential in Sequans' Massive IoT segment. 5G thin modem (Taurus) project remains on track to sample late 2021/early 2022.
  - **HIMX:** We believe 2021 is shaping up to be a strong year for Himax. After a two-year downcycle in the display supply chain and product delays, Himax is now benefiting from a migration of the LCD supply chain from Korea to China along with a ramp in TDDI. Work-at-home trends driving strong notebook demand, along with an ongoing automotive recovery combined with a multiplication of displays inside the car, represent ongoing demand catalysts for Himax into 2021. Supply tightness and resulting component shortages bode well for pricing and mix while extending order visibility (currently good through mid 2021). Increased production along with new design wins should catalyze market share expansion, in our view, while AMOLED display driver ICs represent a significant growth

engine for Himax for the medium term (smartphone and automotive wins with China OLED panel makers).

- **AVGO:** We continue to view Broadcom as a defensive name into 2021 with diversified revenue flows, notably a stable infrastructure software business. AVGO's valuation remains inexpensive when looking at the software portion of the business, with the potential for multiple expansion as investors gain confidence in management's software execution focusing on the higher-margin, largest enterprise customers.
- **SMTC:** In C2021, Semtech should benefit from a rebound in key markets including data center and 5G basestations, while 5G should continue to benefit the company's smartphone business. Our industry checks point to strong momentum ahead for LoRa into C2021. LoRa catalysts include smart buildings, smart cities, and industrial IoT among others, with notable strength in China.

Back to the Future: **Software & SaaS** Press Releases and Announcements from 10 Years Ahead, Along with Baird's Top Software & SaaS Picks for 2021

- **Dreamforce 2030, San Francisco, November 2030: At Dreamforce 2030, Salesforce announced the rollout of its "Virtual Enterprise." The company also increased its TAM to \$300B**, up from \$7.1B in their 2003 S-1. "The fully predictive virtual enterprise is finally upon us," said CEO Bret Taylor. "With real-time predictive workflows across sales, marketing, service and internal collaboration, Salesforce is the only partner that can take enterprises virtual." With over 1M Salesforce users, customers, and Trailblazers joining for a hybrid event virtually around the globe and in San Francisco, the company showcased the new Virtual Enterprise features. Entertainment featured Metallica, who played "Enter Sandman" seated on a pier at Alcatraz accompanied by the San Francisco (in person) and Beijing (virtual) Philharmonic Orchestras.
- **Top Software & SaaS ideas for 2021: SPT, MDLA**
  - **SPT:** We made SPT a top pick in mid-2020. Our bullish thesis is based upon 1) the growing importance of social media for all businesses, 2) the convergence of social and commerce, 3) Sprout's cloud native platform and low tough go-to-market, and 4) strong founder-led management.
  - **MDLA:** We believe Experience is the long-tail of digital transformation. Companies that invest to digitize their businesses must then leverage new ways to measure and monitor performance. Customer satisfaction (and churn mitigation) are core tenets of the subscription economy. We view MDLA as very well-positioned to benefit. After the stock underperformed in 2020, we believe 2021 should be a good one for shares. The IPO of competitor Qualtrics should also drive further investor interest in "Experience" which we believe at scale is a two-horse race.

Back to the Future: Vehicle Technology & Mobility Press Releases and Announcements from 10 Years Ahead, Along with Baird's Top Vehicle Tech Picks for 2021

- **NA International Auto Show, September 27, 2030: Visteon celebrates GM partnership as 10 millionth Ultium-based EV rolls off the production line.** VC CEO Sachin Lawande, "We are proud to recognize this important milestone with our partner GM. The Ultium platform, enabled by Visteon's industry-leading wireless BMS platform, has delivered on the vision of a modular approach to EV architectures. Moreover, steady advances in this wireless BMS technology have enabled breakthroughs in range and energy efficiency, helping to support GM's leading position in the North American EV market."
  - Visteon has continued to solidify itself as the premier Tier 1 provider of wireless BMS solutions, building on the foundation of the company's first breakthrough award with GM in late 2020. As of 2030, the company's wireless BMS technology can be found on more than half of all EVs worldwide.
- **CES, January 7, 2030: Aptiv's Motional JV hails planned full transition to robotaxis in all of Lyft's major US metro markets.** APTV CEO Kevin Clark, "It is only fitting that we mark this groundbreaking transition back where it all began in 2018, when Aptiv launched its first commercial AV deployment in Las Vegas. Millions of five-star ratings later, we are excited to enable Lyft's planned transition to driverless robotaxis in all major US metro markets, leveraging the fourth-generation autonomous vehicle platform from our Motional autonomous driving JV with Hyundai."
  - Motional (50% owned by Aptiv) has become established as a leader in the robotaxi space, successfully bridging Silicon Valley and the traditional auto industry. Through tight integration of all components needed for Level 4 autonomy, in cooperation with Hyundai, the company's smart vehicle architecture-based robotaxi platform has set the industry standard for cost and performance.
- **WWDC (Apple Worldwide Developer Conference), June 24, 2030: Gentex unveils Apple Pay integration with Integrated Toll Module.** GNTX CEO Steve Downing, "This is an exciting chapter in the Integrated Toll Module (ITM) story. With Apple Pay now integrated into our ITM, including authentication enabled by our driver monitoring system, consumers can seamlessly pay for restaurants, re-fueling, vehicle services, parking, and event entry via this expanded vehicle-to-infrastructure payment solution."
  - Vehicle-to-infrastructure applications continue to proliferate, making Apple Pay and Gentex's Integrated Toll Module a natural fit – both for the iCar and third-party vehicle applications. Building on the success of the Full Display Mirror, next-generation technologies now represent well over half of Gentex revenues.
- **4Q30 earnings, January 30, 2031: Littelfuse applauds deployment of 500,000 new public EV charging outlets.** LFUS CEO David Heinzmann, "We are proud to have partnered with the Department of Transportation and Department of Energy to reach this target by 2030, with this program having been launched by the Biden administration 10 years ago. This alone provides the infrastructure for 25 million EVs, or nearly 10% of the US car parc."
  - Littelfuse high-voltage fuses and power semiconductors have become the go-to solution in the level 3 DC fast charger market, with the company realizing approximately \$100 in content per charger. This has helped to elevate the company's overall exposure to EVs, which also carry significant incremental content (5x vs. ICE) in Littelfuse's automotive business.
- **NACV (North American Commercial Vehicle) Show, September 30, 2030: Sensata-enabled smart & connected trucks eclipse 75 billion miles.** ST CEO Jeff Cote, "We are proud to highlight our ongoing partnership with leading fleet operators at this year's NACV show. Our smart & connected sensors and vehicle area network technology enables predictive maintenance and improves fleet uptime, helping our partners log 75 billion miles over the past decade."
  - The Smart & Connected retrofit market is massive at \$6 billion, with Sensata's solution the industry standard building on the company's legacy expertise in wireless tire pressure monitoring and deep transportation roots overall. With the advent of self-driving commercial vehicles, Sensata's fleet monitoring technology is now more important than ever.
- **Top Vehicle Technology & Mobility ideas for 2021:** VC, APTV

- **VC:** Visteon was on an upward trajectory entering 2020 and company-specific momentum has continued despite COVID-related disruption, with a significant backlog backing an expected multiyear revenue ramp and strong outgrowth vs. underlying auto production. We see the company as well positioned overall across instrument clusters (including digital clusters), infotainment and displays, with emerging opportunities in wireless BMS for EVs adding an exciting new aspect to the story going forward.
- **APT:** We are positive on the potential for outsized earnings growth at APTV, driven by the company's leverage to key secular drivers and opportunity to scale upfront investments. The company is particularly leveraged to vehicle electrification, in addition to active safety/autonomous driving and in-vehicle technology.

[Back to the Future: Vertical Software Press Releases and Announcements from 10 Years Ahead, Along with Baird's Top Vertical Software Picks for 2021](#)

- **Press Release, March 5, 2030: Autodesk celebrates VFX and Animation Academy Award nominees using M&E Collection software.** For the 35<sup>th</sup> consecutive year, artists in the fields of visual effects and animation used Autodesk software to create Oscar-nominated films. In the Academy Awards Best Visual Effects category, all five nominated films – Blade Runner 2059, Finding Nemo (live action), The Neverending Story, Star Wars: Episode I – The Phantom Menace, TRON: Rebirth – were created using tools such as Maya, 3ds Max, and other products within the Media & Entertainment Collection.
- **YII2030, October 26, 2030: Bentley recognizes completion of Jakarta Mass Rapid Transit project.** Bentley Systems congratulates *Year in Infrastructure 2030* Awards winners associated with the Jakarta Mass Rapid Transit project, a transformative undertaking that has remade public transportation in what is now the world's largest city. Following multiple construction phases over 17 years, Indonesia's Ministry of Transportation and operator PT Mass Rapid Transit (MRT) Jakarta celebrated the project's completion earlier this year at the final 231 km of track in the east-west corridor. Over the years, *Year in Infrastructure* conferences have recognized numerous aspects of the MRT project utilizing Bentley solutions such as MicroStation, ContextCapture, LumenRT, OpenRail Designer, OpenBridge Designer, OpenRoads Designer, OpenBuildings Station Designer, LEGION, ProjectWise, SYNCHRO 4D, and iTwin Services.
- **Connections 2030, November 18, 2030: Guidewire announces Vail Release with CollisionNow Instant Claim Settlement.** Guidewire Software, Inc., the platform P&C insurers trust to engage, innovate, and grow efficiently, today announced availability of Vail, the latest release of its market-leading cloud platform. In addition to the Vail release, Guidewire is unveiling the latest in claims automation technology with CollisionNow, a first-of-its-kind application that makes claims settlement possible within minutes of the collision ("first notice") event. Guidewire has worked closely with AWS and the auto industry to make this possible. Upon collision detection, a vehicle's onboard camera sensors immediately send the last 30 seconds of video feed to the cloud, where analytics and AI technology determine the at-fault driver, match drivers with relevant policyholder information, determine settlement between parties by leveraging Guidewire's auto adjudication engine, and disburse settlement funds to the policyholder's account. CollisionNow will be available for ClaimCenter customers, with GA in early 2031.
- **Microsoft Partner of the Year Awards, July 15, 2030: PTC named Microsoft's Global Manufacturing Partner of the Year for innovation in spatial computing.** PTC today announced it has been named the Global Manufacturing Partner of the Year in the Microsoft 2030 Partner of the Year Awards. PTC has been recognized by Microsoft numerous times over the last 15 years for work in the areas of digital manufacturing, service optimization, and engineering excellence, enabled by PTC solutions including ThingWorx, Vuforia, Windchill, Onshape and Arena. This year, special recognition was given to Vuforia Spatial Toolbox and its integration with Microsoft HoloLens 6, accelerating adoption of spatial computing in mainstream manufacturing settings. By combining CAD, PLM, and MES data with the HMI and computer vision capabilities of Vuforia and edge connectivity managed by ThingWorx, manufacturers are achieving new levels of worksite optimization and workforce productivity.
- **Press Release, April 20, 2030: Synopsys introduces Cold Fusion Compiler for Superconducting Electronics.** Synopsys, Inc. today introduced its Cold Fusion Compiler platform, a comprehensive set of Advanced EDA and TCAD tools that will enable engineers to design circuits for Superconducting Electronics (SCE). "3D transistor stacking and the success of Synopsys' 3DIC Compiler drove a new era of system-level performance, power, area and cost optimization over the last decade," said Sassine Ghazi, Chief Operating Officer. "Superconductor-based circuits have the potential to usher in an entirely new era, revolutionizing electronics much like silicon-based semiconductors have. Synopsys' Cold Fusion Compiler platform provides a SCE design flow that can reduce time and cost across the industry, making superconductors a viable alternative." Superconducting electronics offer significant processing speeds and power efficiency but to date have



lacked commercially available EDA tools to help scale designs and drive broader adoption. Synopsys' work in the field of SCE dates back to 2017 and research undertaken with the U.S. Intelligence Advanced Research Projects Activity (IARPA) as part of the SuperTools Program.

■ **Top Vertical Software ideas for 2021:** ADSK, PTC

- **ADSK:** Autodesk is an idea we continue to like for 2021+ as the company executes on several cyclical/secular growth opportunities in AEC and manufacturing, reaccelerating revenue growth in the process. Autodesk customers are becoming more comfortable with the prospect of incremental investments following election/vaccine outcomes; within Autodesk's own performance, this should manifest in steady bookings improvement throughout the year. Relative to management's initial FY22 (January) revenue guidance for low/mid-teens growth, we suspect the year could exit closer to high-teens growth and set the stage for a very good FY23. Key secular drivers, such as cloud-based construction and manufacturing solutions, should also continue to grow in importance.
- **PTC:** There are several attractive elements to the PTC investment case that we expect to drive strong shareholder returns over the next several years: recently refreshed mid-term targets are better than anticipated, including annual FCF growth of 25-30%; sustaining above-market growth within the company's core CAD/PLM businesses; accelerating contributions from the Growth portfolio of products, particularly in the area of IoT where bookings were negatively impacted during FY20; and a bullish outlook for SaaS adoption across several product categories – CAD, PLM, augmented reality – that are still in the early innings of their potential “penetration” opportunity.

## Valuation & Risks

# Appendix - Important Disclosures and Analyst Certification

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## Appendix – Important Disclosures and Analyst Certification

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