

# ASEE FIRST BELL

Today's engineering and technology news prepared exclusively for the engineering and technology community

Good morning

March 4, 2020

## LEADING THE NEWS



### Boeing Unveils FARA Helicopter Design

[Aviation Week](#) (3/3, Warwick, Hudson) reports that The Boeing Company has “revealed it is offering a thrust-compounded helicopter for the U.S. Army’s Future Attack Reconnaissance Aircraft (FARA) program.” The “clean-sheet design” is a part of Boeing’s efforts to “win one of two contracts the Army expects to award at the end of March to build FARA prototypes for a competitive flyoff at the end of fiscal 2023.” FARA is “intended to replace Boeing AH-64E Apaches now used in the armed reconnaissance role.” Boeing’s FARA design is a tandem-seat, single-engine craft with “a hingeless single main rotor with six blades for high solidity, a four-blade tail rotor and a clutched four-blade propeller on the tail for

propulsion.” The helicopter uses a GE T901 engine. With respect to the design, Boeing Phantom Works Vice President and General Manager Mark Cherry said that Boeing is “listening to our customer, understanding our own capability, and putting that together into a purpose-built clean sheet design that we believe will meet all the needs the Army is looking for.”

[Aviation Today](#) (3/3, Wolfe) reports that Boeing’s FARA design “features a ‘state-of-the-art cockpit with a reconfigurable large area display and autonomous capabilities,’ the company said.” When asked to

describe the autonomous capabilities, Boeing said in an email, “Advanced virtual modeling informed the design of the Boeing FARA Pilot Vehicle Interface (PVI) that minimizes crew workload and provides cognitive decision aiding to enable supervised autonomy. Boeing has also demonstrated the ability to supervise advanced teaming with unmanned air systems and surrogate ALEs [air-launched effects] from the FARA PVI.”

Also reporting are [Breaking Defense](#)   (3/3, Freedberg), [Defense Daily](#)   (3/3, Subscription Publication), [Business Insider](#)   (3/3, Pickrell), [National Defense Magazine](#)   (3/3, Tadjeh), [Defense News](#)   (3/3, Judson), and the [Puget Sound \(WA\) Business Journal](#)   (3/3, Subscription Publication).

## HIGHER EDUCATION

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### Advocacy Groups Write Letter Asking DeVos To Help Student Loan Borrowers With Disabilities Erase Their Student Loans

[NPR](#)   (3/3, Turner) reports that “student loan borrowers who have severe disabilities” have the ability “to have their federal student loans erased.” However, “one letter, signed by more than 30 advocacy groups” and sent to Education Secretary DeVos “says the department has made the application process so burdensome that most borrowers never get the help they’re entitled to.” The article says, “The letters come after an NPR investigation revealed that only 28% of eligible borrowers with disabilities – identified by the Education Department between March 2016 and September 2019 – have

either had their loans erased or are on track for that to happen.”

### University Of Nevada Reno College Of Engineering Holds Career Fair

The [Northern Nevada Business Weekly](#)   (3/3, Moylan) reports the University of Nevada, Reno, College of Engineering hosted a biannual career fair on February 20. Since it began in 2011, “the event has grown from 19 employers to 74.” Companies in the fair include “SNC, Panasonic and Click Bond, who were all looking for majors in electrical, mechanical, and computer science and engineering. A large percentage of the companies there offered internships for students as well.”

### Abraham Announces \$1.2 Million NSF STEM Grant For Louisiana Tech

The [Monroe \(LA\) News Star](#)   (3/3) reports Rep. Ralph Abraham (R-LA) announced Tuesday that the National Science Foundation is giving Louisiana Tech University a \$1.2 million grant “to foster computer science education in north Louisiana.” The project “includes partnerships with the National Integrated Cyber Education Research Center and six high-need school districts.”

### **International College Admissions Test Sites Closed Over Coronavirus Fears**

The [Wall Street Journal](#)   (3/3, Thomas, Subscription Publication) reports that test sites for the SAT, ACT, GMAT, and Toefl college entrance exams in a number of countries have been shuttered over concerns about the coronavirus outbreak.

## **From ASEE**

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This great content from the Annual Conference is available year-round, on the ASEE TV YouTube Channel. See the [playlist from 2019](#).

### **Find Faculty Talent**

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### **FREE Webinar – Promising Practices for DEI Project Evaluation**

Join us March 10 at 1 PM, ET for a free webinar that will help you develop your capacity to work with evaluators on DEI projects, exploring best practices for developing evaluation language, working with evaluators, and interpreting results. [Register here](#).

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## RESEARCH AND DEVELOPMENT

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### **Texas A&M Researchers Developing Tool For Monitoring Mental Health Through Smartwatches**

[KXXV-TV](#)   Waco, TX (3/3) reports Texas A&M researchers are “developing a tool that could allow students to monitor their mental health through their smartwatch.” The Mental Health Evaluation and Lookout, or M-HELP, device is “triggered by anxiety patterns, like your heart rate, and prompt the wearer to start therapeutic activities.”

### **Dartmouth Researchers Creating Antibiotic Alternative That Can Be Used Multiple Times**

The [Concord \(NH\) Monitor](#)   (3/2) columnist David Brooks says the “scariest thing happening in the world these days is climate change, but there’s a close second: Antibiotic resistance.” Its an issue being addressed by the Thayer School of Engineering at Dartmouth. There, Prof. Karl Griswold and his team are developing a “lytic enzyme,” which may be an “antibiotic alternative that can be used multiple times.”

### **FedEx Partners With Drone Company At Memphis International Airport**

[Memphis \(TN\) Business Journal](#)   (3/3, Subscription Publication) reports that FedEx has partnered with a drone company to develop “solutions” at Memphis International Airport. FedEx Express SVP Joe Stephens said, “FedEx sees the undeniable safety and efficiency benefits of next-generation innovation for our team members and operations, and we are working with drone technology leaders to develop cutting edge logistics solutions to meet our customers’ needs.”

### **FiveAI Raises \$41 Million For Self-Driving AI Stack Technology**

[VentureBeat](#)   (3/3, O'Brien) reports UK-based startup FiveAI “raised \$41 million in venture capital as the startup seeks to turn the self-driving research it has conducted into commercial products and services.” According to the story, FiveAI specializes in AI stacks for autonomous vehicles. Additionally, FiveAI “is leading a coalition called StreetWise, which is conducting extensive self-driving testing in the UK.”

### **Audi To Lead Volkswagen Group R&D Efforts**

[WardsAuto](#)   (3/3, Kable) reports, “Audi will take the lead on R&D within the Volkswagen Group, as the world’s largest automaker by sales moves to create greater economies of scale and a pooling of resources between its various brands.” This announcement “comes as the Wolfsburg, Germany-based company boosts

investment in future technologies, including electric drivelines, 5G connectivity and autonomous-driving functions.”

### **Study Finds AI Can Improve Breast Cancer Screenings When Paired With Human Radiologists**

[AI in Healthcare](#)   (3/2, Walter) reports that AI algorithms, when “used in tandem with evaluations by human radiologists,” are able to “improve the overall quality of breast cancer screenings, according to a new study.” The Digital Mammography (DM) Dialogue on Reverse Engineering Assessment and Methods (DREAM) challenge, which prompted the findings, “was conducted by representatives from Sage Bionetworks, IBM Research, the Kaiser Permanente Washington Health Research Institute and the University of Washington School of Medicine.”

## **GLOBAL DEVELOPMENTS**

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### **Northrop Grumman Wants Australia To Acquire Triton UAVs Earlier Than Planned**

[Reuters](#)   (3/4, Freed) reports that Northrop Grumman “is pushing for Australia to acquire Triton maritime surveillance drones earlier than planned, after a draft U.S. defence budget proposed a two-year pause in production, the firm said on Wednesday.” The proposed pause gives Australia the ability to acquire the UAVs at a lower cost and provides additional production opportunities for local suppliers according to Northrop Grumman Triton program Vice President Doug Shaffer. A spokesman for the Australian Department of Defence “said it was aware of the budget request to the U.S. Congress and was discussing the impact of the proposed pause with the U.S. Navy and Northrop Grumman.”

## **INDUSTRY NEWS**

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### **Mercedes-Benz To Reduce Costs In Some Areas To Free Up Cash For Electric, Autonomous Vehicles**

[Reuters](#)   (3/3) reports Mercedes-Benz is pursuing “a sweeping cost cutting plan to free up cash to build electric and self-driving cars, a step which could see entire engine families and platforms eliminated, Daimler board member Markus Schaefer said on Tuesday.” Speaking to the press, Schaefer said, “We will review our current lineup and the idea is streamlining the portfolio,” adding that “Yes we will have fewer platforms in future. The SL, I can confirm on a new platform.”

## ADVERTISER SUPPLIED CONTENT

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### **Modifications Elevate UA Wind Tunnel Capacity – From Subsonic To Hypersonic**

Department of Defense funding totaling \$1.7 million is helping aerospace engineers at the University of Arizona expand [wind tunnel experiments](#) on vehicles traveling at the speed of sound and much faster. “We are building on our department’s legacy in fluid mechanics and aerodynamics,” said Jesse Little, associate professor in aerospace and mechanical engineering. “Now we will be able to experiment from Mach 0 to Mach 5 at scales relevant for real problems.”

## ENGINEERING AND PUBLIC POLICY

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### **Gadget Flow Article Examines Lack Of Regulatory Oversight Of Autonomous Vehicles**

In an article on autonomous vehicle technology’s overall progress, [Gadget Flow](#)   (3/3) writer Lauren Wadowsky states that as of right now, autonomous vehicles don’t have many policy hurdles to overcome “and that’s part of the problem.” Wadowsky explains that the “NTSB only has the authority to make recommendations following its investigation of an accident” and “it’s then up to the National Highway Traffic Safety Administration and companies like Tesla to act on them.” Wadowsky states that “this frustrates the NTSB as they had previously passed recommendations two years ago.” NTSB Chairman Robert Sumwalt said, according to Wadowsky, that if NHTSA doesn’t enact recommendations, “then we are wasting our time. Safety will not be improved. We are counting on them to do their job.” Wadowsky adds, “It’s a frightening thought. One that might make many of us rethink riding in a robot-driven car.”

### **DJI: Study Finds That Costs Of Abiding By Remote ID For Drones Is 9 Times Greater Than FAA Estimate**

[Drone Life](#)   (3/3) reports that in a press release put out on Tuesday, DJI, the world’s foremost drone manufacturer, “says that an independent economic study finds that costs of compliance with the” proposed Remote ID for drones rule is nine times greater than the FAA’s estimate. Drone Life includes the text of DJI’s press release.

***EAA Expresses Opposition To Remote ID Proposal.*** The [AVweb](#)   (3/3) reports the Experimental Aircraft Association (EAA) criticized the Remote ID for drones proposal. The organization additionally “offered several alternatives to specifics of the FAA proposal, including allowing registration of multiple aircraft by one owner under a single registration; ‘creation of a notification system not reliant on immediate, on-site internet

connectivity;’ and ‘establishment of FAA-recognized identification areas, such as model aircraft flying fields, directly with the FAA via a time-proven system such as FAA’s Web-based Operations Safety System.” AVweb adds that the NPRM regarding the remote identification proposal received more than 52,000 comments.

### **Dessler: Energy Transition Necessary To Tackle Climate Change**

In an op-ed in the [San Antonio Express-News](#)   (3/3), Texas A&M University Professor of Atmospheric Sciences Andrew Dessler argues that a transition away from fossil fuels is necessary in order to reduce greenhouse gas emissions and tackle climate change. He says, “There are lots of potential ways to go about this, each with its own sets of benefits and drawbacks. A carbon tax is favored by many across the political spectrum, and indeed will likely be a component of any comprehensive climate plan.” Dessler also says, “The reality is that innovation has been rapidly driving down the price of renewables – at this point, they are competitive with fossil fuel energy in many locations. So we’re almost there, and it seems certain that the cleverness of American business can get us to the point where the transition is seamless.”

### **New FERC Energy Pricing Rule Causes Friction With States**

[Bloomberg](#)   (3/3, Martin) reports FERC recently introduced a rule expanding the minimum price floor for sellers in capacity markets, which critics have argued could harm the market for renewables by effectively eliminating state incentives. The commission’s rule “set up a battle over whether left-leaning states including New York, New Jersey and Illinois can effectively promote clean power.” The rule also could support the struggling coal industry by ensuring a level playing field for all energy sources.

### **FERC Commissioner Says Carbon Price Will Not Resolve Tensions With States**

[S&P Global Platts](#)   (3/3, Hale) reports FERC Commissioner Richard Glick “on Tuesday tossed cold water on the idea that implementing carbon pricing in regional wholesale power markets would automatically defuse growing tensions between the agency and states with aggressive climate targets.” At an event in Washington DC, Glick said, “I think it’s a little naive to say, ‘Well, if we had some sort of a carbon price, states wouldn’t want to have clean energy policies.’” He added, “I’m not entirely sure [carbon pricing] is the panacea to address the issue the commission has struggled with and will continue to struggle with for a while ... whether to accommodate state policies or quite frankly obliterate them through some of our orders.” Glick’s comments were “set against the backdrop of a series of FERC orders imposing price floors on state-subsidized clean energy resources in the ISO New England, PJM Interconnection, and most recently the New York ISO.”

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### **WV House Passes Solar Energy Bill**

The [AP](#)   (3/3) reports the West Virginia House of Delegates voted 75-23 Tuesday to pass a bill making it easier



for companies to use solar energy. The state's commerce department "pushed for the bill, saying big companies want to know that they can use renewable energy sources before relocating to a state." The bill now heads to the state Senate for consideration of some minor amendments. State senators voted unanimously last month to approve the bill.

### **Report: EV Industry Grows To 120,000 Direct Jobs In Southern California**

[Los Angeles Biz \(CA\)](#)   (3/3, Subscription Publication) reports the electric vehicle industry "has grown to 120,000 direct jobs in Southern California and 276,000 statewide, according to a new [report](#)   from the Los Angeles

Economic Development Corporation (LAEDC)." SCE Managing Director of Energy and Environmental Policy Michael Backstrom is quoted saying, "Clean energy investments, including electrifying transportation, mean thousands of stable, good-paying jobs across the value chain – from skilled and craft to high-tech and innovation positions – for Southern Californians."

The [Los Angeles Times](#)   (3/3, Mitchell) says the report "recommends continued subsidies of electric vehicles, local support for EV infrastructure, more publicity about available subsidies, and more EV jobs education at community colleges and other institutions." LAEDC "also recommends that tax credits around 5% be considered for EV-related manufacturers."

## **ELEMENTARY/SECONDARY EDUCATION**

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### **Lockheed Martin Helps Marietta Elementary School Open Innovation Lab For Its Students**

The [Atlanta Journal-Constitution](#)   (3/3, Dixon) reports Lockheed Martin has "partnered with a Marietta elementary school to open an innovation lab for its students." With a "\$170,000 grant from the company," the 1,000-square-foot lab focusing on Science, Technology, Engineering and Math, or STEM, "features 3-D printers, robotics equipment, virtual reality and interactive screens."

### **Elementary Students Code Robots To Perform In Honor Of National Digital Learning Day**

The [Nevada Appeal](#)   (3/3, District) reports in "celebration of National Digital Learning Day on Thursday, students throughout the Carson City School District, in particularly from Fritsch Elementary School, spent some time to learn online coding programs (equivalent to Javascript) and other coding programs that enabled

them to command a robot to move and perform based on the code the students developed.” Digital Learning Day was established “in 2012 as a grassroots effort and quickly blossomed into a worldwide celebration of learning with technology.” Today, the event “promotes the effective use of technology to enhance the student learning experience.”

### **West Virginia Likely To Sign Off On Bill Extending Career Technical Education Into Middle Schools**

The [Bluefield \(WV\) Daily Telegraph](#)   (3/3, Telegraph) reports a bill that is “expected to pass the Senate today reflects part of the future of career and technical education (CTE) in public schools that is inclusive of middle school students.” The legislation will “extend Career Technical Education into the middle school grades beginning with comprehensive career exploration including communicating to students the knowledge, college and career skills and life characteristics needed for success in occupations and entrepreneurship in the changing world of work.” Dr. Deborah Akers, superintendent of Mercer County Schools, “said she has talked with legislators before about the issue and the need to be able to get students interested and participate in CTE programs at an earlier age.”

## **ALSO IN THE NEWS**

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### **Former University Of Colorado Boulder Professor Inducted Into Colorado Space Heroes Hall Of Fame**

The [Colorado Daily](#)   (2/28) reports former University of Colorado Boulder professor George Born was “inducted into the Colorado Space Heroes Hall of Fame on Wednesday.” Born, who “died in January 2016, was an aerospace engineer and founder of CU’s Colorado Center for Astrodynamics Research.” He also “won seven NASA awards for technical and managerial contributions while working at the Jet Propulsion Laboratory in Pasadena, Calif., where he worked on numerous interplanetary missions.”

## **TUESDAY'S LEAD STORIES**

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- [SpaceX Test-Fires Falcon 9 Rocket Ahead Of Friday Dragon Cargo Capsule Launch](#)
- [At Least Three West Coast Colleges Potentially Exposed To Coronavirus](#)
- [Massive White Dwarf Star Found To Actually Be The Result Of The Merger Of Two Stars](#)
- [Boeing, SpaceX Parts Manufacturer Visser Hit With Ransomware Attack, Documents Leaked Online](#)

- [Senate Bill Proposes Creation Of Center To Advance Aviation](#)
- [California's Largest District Aims To Expand Seal Of Approval Process For Schools Specializing In STEM](#)

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