



TECHNOLOGY

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Noodoe aims to improve charging options for EV owners

Electric Charging Firm Noodoe Adds Huff as Govt Affairs Chief

Active in 8 Countries, Looks At European Expansion

Electric vehicle charging company **Noodoe EV**, which boasts a strategic center in Irvine, now has a new government affairs chief, **Bob Huff**, as the company seeks to make sure drivers can keep rolling conveniently.

The company, which has helped install and run more than 3,500 charging stations worldwide, has hired former state Senate Republican leader Huff as its director of government affairs to help shape new government standards for EV charging infrastructure at both state and local levels.

Huff, who works out of the company's Irvine office, says there is still plenty to do on the government front.

"It's still the Wild West in terms of regulation," he says.

Huff served 12 years in the California state legislature, including four years as Senate Republican leader.

14 States, Dual HQ

Chief Executive **Jennifer Chang** said the company is active in 14 states in the U.S. and eight countries, including Canada, Mexico, Australia, Thailand and Taiwan.

She said there are plans to expand in Europe as well.

Well-known local installations include locations at the **Biltmore Millennium Hotel** in downtown Los Angeles, the city of Diamond Bar, and the **Sheraton Universal Studio**.

"Our office in Irvine is an extremely strategic center," Chang told the Business Journal on April 8.

"Our strategy is to build a whole electric vehicle charging network infrastructure."

Chang and Chairman **John Wang** are the co-founders, while venture capitalists are Noodoe's major shareholders.

The company counts 15 total employees in the U.S., and 150 globally.

"We have two headquarters," Irvine and Houston, said Chang, who spends much of her time in OC.

Houston is the "operations headquarters" while the company is directed out of Irvine, with about six to seven employees.



Jennifer Chang
Co-Founder, CEO
Noodoe EV



Bob Huff
Director, Govt Affairs
Noodoe EV

Central Brain

Noodoe provides a network operating system, **Noodoe EV OS**, that runs the EV charging networks for operators.

The cloud computing-based software management solution for EV power charging networks was developed in Taiwan, according to trade publication DigiTimes Asia.

It acts as the charging network's "central brain" that runs all the charging stations across multiple locations and automates the entire operation of the EV charging network.

Noodoe EV OS fully automates everything—24/7 charging service delivery, automatic peak-hour price adjustment, automatic transaction billing, automatic payment processing, automatic bank transfer, automatic infrastructure diagnostics, and intelligent energy management, according to the company.

Huff says the company is making money by licensing its software, though revenue figures were not disclosed.

Future Plans

Huff adds: "Noodoe EV charging stations have features, such as intelligent load balancing, that will help take us faster into an all-electric future."

Huff agrees that Orange County has become a hub for electrification of vehicles, with companies that range from EV maker **Rivian** to **Qmerit**, an EV charging and services provider. In Costa Mesa, **Brytemove** is also pressing ahead with the installation of charging stations and with infrastructure projects, calling itself a "market leader."

Noodoe announced just two years ago it was moving from Walnut to Irvine, which provides major advantages for the company. "We at Noodoe understand that California sets the bar for nation-leading EV policies. That's why we have offices in Irvine, California to support our technological efforts and EV installation support statewide," the company says.

California now accounts for over 40% of all zero-emission cars on the road in the U.S., according to Noodoe, citing state figures. ■



UCI's Cybersecurity Institute Ups Augmented, Virtual Reality

Russian Cyberactivity Reminder To Keep Guard High: Cunningham

The **University of California, Irvine's** cybersecurity institute is moving further into augmented and virtual reality.

Among other new projects, the school's multidisciplinary **Cybersecurity Policy & Research Institute** (CPRI) is seeking to develop a university-wide infrastructure to develop a university-wide infrastructure to develop an immersive learning based on virtual reality and augmented reality.

Both use computerized techniques to simulate real-world experiences.

"I'm trying to develop a capability to do immersive cyber-response exercises," said **Bryan Cunningham**, CPRI, executive director.

"That technology has a much broader implication than just for cybersecurity."

"We're developing a multi-school, multi-disciplinary effort to figure out what the hardware and software architecture of that capability should be," Cunningham told the Business Journal on April 8.

He said CPRI has already done a number of "cybersecurity response exercises where we bring in business leaders and have them run through a simulation of what it would be like to be under a cyberattack."

Now the aim is "enhancing those experiences by having the content delivered on virtual reality goggles or potentially AR glasses, so that the participants would be more fully immersed in the experience."

"Those kinds of technologies can have much broader uses and applications in learning." He said AR and VR are "tools" in the process, while LED walls may also be used.

World Events

Business' computer security needs include multi-factor authentication to log in and go online, training and an insistence on changing passwords and updating security

patches.

World events are a warning of the dangers that companies behind on their security policies can fall trap to.

If you're not doing that "it's a good reminder to do it," Cunningham says of the Russian invasion of Ukraine.

The start of the attacks in February gave rise to worries that Russia would intensify its global cyberattacks on governments and businesses.

Cunningham pointed to the U.S. government's April 6 announcement that it had disrupted a global internet malware operation run by Russia's military intelligence.

That may mean the Russian computer attackers "actually have fired their big guns and we were able to stop them."

"Maybe we're just beating them," Cunningham said. "I take the government at their word that they removed a large number of botnets."

"Next time we'll have to switch and do something different."

Cunningham said two other possibilities are that the Russian

cyber capabilities are "as overblown and inept and unorganized" as their military or that they just haven't done it yet. But he said both are now less likely now that the U.S. has announced its successful operation.

Vigilance Needed

As for critical infrastructure and high-end military R&D, of which there's a growing base of business in Orange County, Cunningham said to be vigilant.

"So much attack technology is automated. They're not looking for specific targets. They're just looking for vulnerabilities and then they'll attack you and then they'll figure out if you're a valuable target."

Cunningham's previous work includes serving as deputy legal adviser to then-National Security Adviser **Condoleezza Rice**. He also served six years in the **Clinton Administration** as a senior CIA officer and federal prosecutor, according to his UCI biography.

Campus Events

Cunningham said the CPRI is looking forward to doing more live events on campus, probably starting this fall, while research and publishing have continued robustly during the pandemic.

He emphasizes the institute made progress during the pandemic despite the obstacles to in-person gatherings.

Cunningham also said other initiatives include sponsoring a student cybersecurity team that made it to the finals of a national competition. ■

Noodoe EV

noodoeEV

- **HEADQUARTERS:** Irvine, Houston
- **FOUNDED:** 2013
- **CEO:** Jennifer Chang
- **GOVT AFFAIRS CHIEF:** Bob Huff
- **BUSINESS:** electric vehicle charging stations, systems
- **IRVINE EMPLOYEES:** about 7
- **NOTABLE:** adds government affairs director

UCI Cybersecurity Policy & Research Institute

UCI Cybersecurity Policy & Research Institute

- **FOUNDED:** 2016
- **EXECUTIVE DIRECTOR:** Bryan Cunningham
- **PARTICIPANTS:** more than 80 from academia, critical infrastructure businesses, government and the privacy and civil liberties community
- **NOTABLE:** looking forward to more live events on campus in fall