

# BRINGING FAST CHARGING DOWNTOWN

## ULTRA-FAST CHARGING IN CITIES. AN IDEA WAS BORN

JOLT is building out its ultra-fast charging network and looking for partner sites, particularly in the greater Dublin market, to host its high-tech chargers.

Bringing Fast-Charging Downtown is the motto of Jolt Energy (JOLT), an Irish based company delivering ultra-fast charging solutions throughout continental Europe, North America and soon to launch service in Ireland.

Unlike many of the incumbent players, JOLT is neither an electrical utility nor an oil company. It is a start-up, founded by an internationally focused senior executive team, coming from larger companies like Volkswagen, General Electric and Siemens.

The CEO of JOLT is Maurice Neligan from Greystones Co. Wicklow, who moved to Germany in the 1990s to start a career at Siemens. He worked in both the energy and automotive businesses, before moving to Continental and then Volkswagen. After the Diesel Crisis, Maurice realized that e-mobility had just made a huge jump forward, the cars would come, but it was clear that the bottleneck would be the charging infrastructure.

After analyzing the market, JOLT decided to focus on ultra-fast charging, urban markets, and most importantly keeping consumer convenience in the foreground.

## THE BIG LEAP

The idea of distributed charging was born, and JOLT began developing the technology needed to make it work. At the same time the entire automotive market began to pivot away from AC-charging to DC-charging and later to DC fast-charging. AC-charging is a dated technology. Sometimes it is compared to the dial-up modems used for Internet access in the 1990s, whereby the new electric vehicles are capable of being fast charged or even ultra-fast charged, akin to broadband or fiber optic connections, using the Internet analogy.

Charging, however, remains a major challenge. Traditional thinking has tended to conclude that most people will either charge at home, on the street or at work using slow trickle AC-chargers. This idea ignored the fact that most people, particularly in cities, do not have dedicated parking and indeed, the grid at the street level does not have sufficient capacity to support charging everywhere.

JOLT's specialty is to deliver ultra-fast charging (up to 320 kW), where access to the medium-voltage electricity grid is extremely limited. JOLT worked with various partners to develop a new generation of charger, which can be deployed on existing low voltage grid connections. These chargers are quick to install, requiring only very light civil works.

## BRINGING ULTRA-FAST CHARGING DOWNTOWN – MISSION POSSIBLE

JOLT started operations in central Europe, where up to 70% of people live in cities, many in apartments and most without the ability to charge at home. Even those with driveways are learning that it's not so easy to get permission from the local electricity company to install a charger at home.

**AT THE MOMENT, EU COUNTRIES ARE FAR BEHIND TARGETS FOR CHARGER INSTALLATIONS. RECENT STUDIES SHOW THAT AS MANY OF 350 DIFFERENT EV MODELS WILL BE LAUNCHED BY 2025, AND BY 2030, THE EU WILL NEED 6.8 MILLION PUBLIC CHARGERS. IN OTHER WORDS, MORE THAN 14,000 WILL HAVE TO BE INSTALLED EVERY WEEK UNTIL THEN.**

As government and municipal bans on petrol and diesel cars start to get closer, more drivers are opting to choose from a growing range of pure electric vehicles. The European Union estimates that 72 million battery electric vehicles (LEVS) will be on European streets by 2030. Just 7-years away.

At the moment, EU countries are far behind targets for charger installations. Recent studies show that as many of 250 different EV models will be launched by 2025, and by 2030, the EU will need 6.8 million public

chargers. In other words, more than 14,000 will have to be installed every week until then. This of course depends on the type of chargers, nevertheless, the number is enormous. Germany for example struggles to install 2,000 simple chargers per month.

JOLT chargers have integrated batteries, allowing them to be installed virtually anywhere. These chargers are deployed on the low voltage grid, instead of the medium voltage grid, meaning faster deployment and lower costs. With this process, the company has no major barriers to installing fast chargers exactly where drivers need them.

## BECOME A PARTNER

As JOLT starts operations in Ireland, it will deploy chargers on commercial and public sites, initially in the Dublin area and later move to other cities and towns. The company is identifying site partners, where the equipment can be installed.

Site partners are typically petrol stations, supermarkets, or retail parks, where customers stay for 20-40 minutes. The site owners benefit from having the latest charging solution on their sites and receive a success-based share in the revenues, meaning additional revenue, no Capex and no operational hassle. The company takes care of everything!



## INTERVIEW WITH MAURICE NELIGAN (CEO OF JOLT ENERGY LTD.)

*Maurice, at the beginning of 2022 JOLT Energy started equipping Esso stations in Germany with 320-kW fast chargers. What are your plans for this year?*

Firstly, thanks for the chance to talk to your readers. JOLT will continue to consolidate in major German cities, while moving into both the Netherlands, and the US markets. Ireland and the UK are next on our rollout list. Over the years, we have learned about the complexity of installing chargers on petrol stations and operating a charging network. This is something which benefits all our site partners.

*There's lots of charging providers, what's special about JOLT?*

Many of the team at JOLT worked previously at large companies. We understand that the internal processes and decision making can be very slow. As an independent company, with a flexible, innovative approach, we can move faster than competing providers.

We use battery boosted charging technology, which allows us to place chargers on petrol stations and in supermarkets, which have no medium voltage grid connection. This means, we can plan easily and promise a delivery date for the equipment, assuming the grid-operator connects us on-time.

*What happens when the battery in your charger is empty?*

This virtually never happens. The technology is very specialized. It takes the base load from the grid and boosts from the battery, recharging in between customers!

*You're already working with Euro Garages, what's next?*

We have a very good relationship with EG (Euro Garages) and will continue to develop stations with them. However, for JOLT to be effective, it's important to have multiple partners in the cities where we operate. At the moment, we're focused on the bigger cities, like Dublin, so we're reaching out to small or medium-sized companies with good sites. Many are interested in having fast-charging available for customers, but do not have the experience (or financing!) to develop their own charging business.

*What's the special sauce, that sets JOLT apart from the competition?*

The advantage of our technology is that it allows charging using the standard low-voltage grid and only 2-available parking spaces. We almost always apply for our own grid connection! This means that the chargers are also suitable for supermarkets, convenience stores, retail parks and fast-food restaurants, where customers stay for less than one hour. Other fast-charging systems need access to the medium voltage grid and 8-10 parking spaces to make them economically viable.

*As you expand, what are the main criteria that you seek in a new site partner?*

We are now looking for well visited sites in the Dublin area for installation in 2023 and 2024. The sites should have 24/7 public access, be well illuminated (and safe), as well as having some convenience options like shopping or cafes for customers. In general, we need at least 2-3 parking spaces and an option for a longer concession / lease on the site.

*What's the benefit for site owners?*

Our site partners benefit in several ways. They get the latest charging technology on their site, meaning additional footfall and attracting drivers who may not normally be customers. For example, Tesla drivers are now visiting petrol stations, with JOLT chargers. They didn't do that before. JOLT finances, installs, and operates the charging equipment, meaning no hassle for the site owner. We will agree a lease or success-based reward package with the site owner depending on the usage of the equipment. It's a win-win for everyone.



Maurice Neligan  
CEO of Jolt Energy Ltd.