EVerest

Managing Energy and Charging Cars with Open Source

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This document is trying to answer all questions from this Wiki Page:
https://wiki.lfenergy.org/display/HOME/New+Project+Proposals+Process

Full list of our dependencies and implemented standards:
https://docs.google.com/spreadsheets/d/1y5hF_CNtBhcYj9O__VXHdA0ILWGgKktpjV7AlQ9Bt2Y/edit#gid=277509596

TAC presentation we will use to explain our project:
https://docs.google.com/presentation/d/1P7iRGEajkx9GR_TDxe23Yu_LcyevZideANsH0hX3xMg/edit#slide=id.gf08d7dae65_0_1

- General information:
  - Name of project
    - EVerest
    - We want to discuss with you if it might be beneficial to use a new name for the open source project and keep "EVerest" for our commercial "certified" version, or the other way around?
  - Is the project's name new or an existing name?
    - Existing: we are holding a trademark in Germany.
  - Project description (what it does, why it is valuable, origin and history)
    - We started this project at the end of 2020 and created a company around it in Feb 2021. We went public with the idea in summer of 2021, but the source code is only accessible by partners under NDA for the time being.
    - Our parent company had a consultant project in 2020 with an ICE supplier company which tried to switch to build wall boxes. There was a strong need to not only buy HW building blocks, but to get all necessary technology in house. Instead of creating a new technology stack for just one company, we decided to think this idea bigger and follow other successful "commercial open source software" projects such as "PX4 in drone space"
    - The core goal is to have an extremely customizable / configurable SW stack which (typically) runs on an electric vehicle charging point (AC or DC) and covers all possible current applications. We quickly realized that we could slightly extend the goal to a general edge energy management software. Coordinating different local energy production and consumption entities is a

very straightforward generalisation of what a future proof charging stack is doing anyway.
- Pionix is VC funded and on a good track to raise enough funding to continue this development even without revenue for some years.
- Technical Project lead
  - Pionix GmbH and its CTO Cornelius Claussen
- Project financial sponsor organization(s)
  - Pionix GmbH
- Names of other key contributing individuals and organizations
  - Cornelius Claussen, Pionix
  - Marco Möller, Pionix
  - Thilo Molitor, Pionix
  - Kai Hermann, Pionix
  - Andreas Heinrich, Pionix
  - Anton Wöllert, Pionix
  - Leonardo Fernandes, Pionix
  - Julian Rädel, Pionix
- Proposed Technical Steering Meeting (TSC) members
  - Cornelius Claussen, Pionix
  - Marco Möller, Pionix
  - TODO - Add more later? We have some potential Pionix clients who might be interested
- Existing community links:
  - https://everest-project.com/
- repository hosting
  - Two github organisation with several repositories, one of them is containing all sources which are going to be public
  - Code on github isn't public yet
- project website and docs
  - https://everest-project.com/
  - documentation is on its way.
- mailing lists, slack, irc
  - Pionix internal: Google Chat, formally Slack was in use
  - We have planned to handle public communication via Slack or Discord
- social media accounts
  - only from our company
    - https://twitter.com/PionixDe
    - https://www.linkedin.com/company/pionix-gmbh/?viewAsMember=true
    - https://www.facebook.com/PionixEVerest
    - https://www.youtube.com/channel/UCF0Mt88gmn7Hbx2fvaQPE4A
    - https://www.youtube.com/channel/UCzmV27_5wik-_JqGpzTJPoQ
    - https://www.xing.com/pages/pionix-gmbh
- Project security plan (TODO - what should this include?)
  - We are happy to discuss any proposals. We are looking forward to the automatic legal and security code scans within the LF infrastructure
- Link to code base
  - not public yet, but we are happy to grant access if you provide us with your github user ID

- Open source status:
  - Please describe the project's license.
    - We are planning to release everything under MIT licence, but are happy to discuss this if another license (e.g. Apache 2.0) supports our common goals better
  - Is the project's code available now?
    - not public yet, but we can grant you access if you provide us with your github user ID
  - Is the code publicly posted? On GitHub or elsewhere?
    - see above
  - Does this project have ongoing public (or private) technical meetings?
    - Yes, weekly plus on demand. And a very active google chat room, currently private.
  - Do this project's community venues have a code of conduct? If so, what is it?
    - not yet, very open to a proposal
  - Describe the project's leadership team and decision-making process.
    - As we are still a small and well connected core team, decisions are made in the development team discussions
  - Does this project have public governance (more than just one organization)?
    - not yet
  - Does this project have a development schedule and/or release schedule?
    - We are aiming for a 1.0 release in Q1/2022, and will then create new releases in a high cadence. Since our company is currently scaling very fast, it's hard to predict in detail
  - Does this project have dependencies on other open source projects? Which ones?
    - We listed all libraries and 3rd party projects we are using here (first tab), along with the list of standards we are implementing (second tab): https://docs.google.com/spreadsheets/d/1y5hF_CNtBhcYj9O__VXHdA0ILWGgKktpjV7AlQ9Bt2Y/edit#gid=0
  - Describe the project's documentation.
    - We are using inline documentation with doxygen/sphinx style and automatic generated HTML / PDF documentation pipeline
    - Meta documentation is still in development
  - Describe any trademarks associated with the project.
    - EVerest is a in Germany registered Trademark (Wortmarke)

- Project status:
  - Do you have a project roadmap? please attach [Are this project's roadmap and meeting minutes public posted?]
    - not public yet
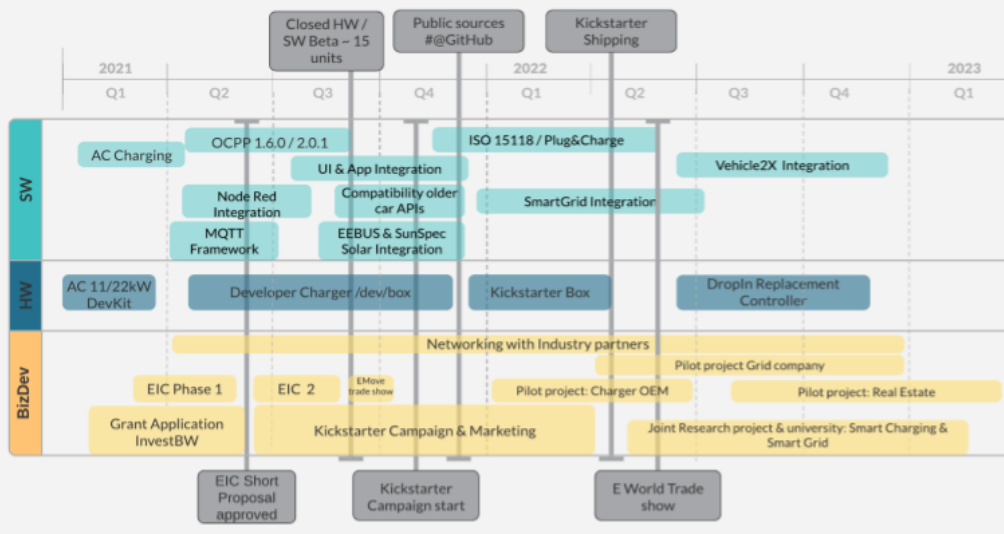
- ○ Does this project have a legal entity and/or registered trademarks?
  - ■ see above
- ○ Has this project been announced or promoted in any press?
  - ■ Yes, just have a look on above listed social media channels of Pionix
- ○ Does this project compete with other open source projects or commercial products?
  - ■ yes and no. So far we are aware of two open source projects:
    - ● https://www.openevse.com/
    - ● https://openwb.de/main/

    which are both GPLv3 licensed and seem to have a way smaller focus in terms of external interfaces and functionality. They mostly focus on the use case of a Nerd at home and lack all features that are necessary for commercial operation (e.g. payment solutions, fleet management). Through their licencing they further slow down adoption in larger commercial projects.
  - ■ Additionally there is JOSEV from Switch-EV: https://www.switch-ev.com/josev
    It is currently closed source, but in the past they mentioned on their website that they plan to open source this in the future. This note is now removed.
  - ■ Beside this there are several other HW and Software vendors which are promoting close source modules or entire stacks, sometimes also only in combination with their HW. Most Chargers out there right now are based on software modules bought from various vendors and some glue code in between.

- ● Project value:
  - ○ Why would this project be a good candidate for inclusion in LF Energy?
    - ■ LFE's current projects are mostly focused on large scale energy generation and distribution. On its path to 100% renewable energy the industry is challenged with the high peak power consumption that the charging of cars can generate. On the contrary, bidirectional charging can stabilize the network by feeding energy from the car batteries back into the grid. This all requires not only large-scale coordinating SW solutions, but access to the

edge of the energy network of the future, and this is exactly where EVerest will be deployed.
- Provide a statement on alignment with the mission in the LF Energy charter.
  - We as a company are 100% aligned with the goal of quick decarbonization and utilization of OpenSource to make this industrial disruption as fast and efficient as possible. The only chance we have to build such a huge new global infrastructure in such a short amount is to streamline efforts and build on top of a shared base.
- What specific need does this project address?
  - We are very interested in all community building and mgmt best practices we can learn from LF energy
- Describe how this project impacts the energy industry.
  - see above
- Describe how this project intersects with other LF Energy projects.
  - TODO pls help, we do not have enough insights into your other projects so far. But we hope we can interconnect cars into the grid management, so local grid capacity can always be anticipated and the cars batteries can help compensate for renewable energies fluctuations in a swarm approach as many major OEMs are currently targeting.
- Who are the potential benefactors of this project?
  - *just some high level points…..*
  - Charging Station Providers
    - Future proof through SW update path
    - Reliable through broad testing by community
    - Easy extensibility & customization through open source
  - Wallbox Manufacturers
    - Focus on USP features & reduce Time2Market
    - Avoid integration problems and decrease costs
    - Avoid vendor lock-in
  - Automotive Industry
    - Tests new models on unified ecosystem
    - Easy & fast roll-out of new features
    - Single point to demand/push infrastructure innovations
  - Utility Companies
    - SW for bidirectional dynamic charging
    - Single entry point for edge control & innovation
  - Mobility Service Providers
    - Can build new services on top of widely adopted solution
    - Fast rollout to existing network
  - Universities & Research Institutions
    - Researched features can be easily adopted for mass market
    - Technology base layer for research
  - Other Industries
    - HW Independent
    - No vendor lock-in
    - Access to technology base layer
- What other organizations in the world should be interested in this project?
  - see above.
  - Everyone in the Energy or Automotive industry
  - from public research to private sector

- Project needs:
    - How would this project benefit from inclusion in LF Energy?
        - We could benefit from your
            - visibility / marketing
            - seriosity: boost trust of potential users
            - experience in community management
            - experience in open source governance
            - code scanning infrastructure
    - Please describe any infrastructure needs or requests (e.g., web hosting).
        - Project website
        - code scans
    - Plan for achieving the next maturity level (Incubation -> Early Adoption -> Graduated).
        - We are currently working on the code base with about 5 FTEs, and are planning to dramatically increase these numbers in the coming months. We hope incubation will be met within very few months or even weeks
        - We are already having a high demand for use of our codebase by Pionix clients. So early adoption should happen early 2022

- Additional requirements for projects applying at the Early Adoption stage:
    - Growth plan
        - We are planning to hire dozens of new developers in the next months / year, and are pushing the SW into early industrial use. This will guide us our way feature wise.
    - TODO
        - ? What's the question here?