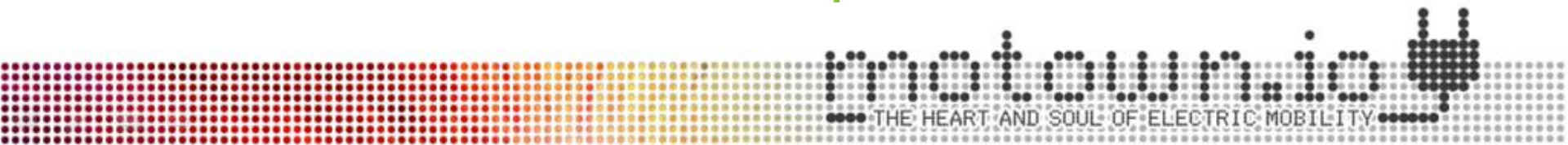# How Motown can help to achieve your organizations' goals
in a better, faster and cheaper way

allego

Opportunity

- For the first time in history we see all pieces of the eMobility puzzle fall together. We believe eMobility is facing the same **exponential growth** (Moore's law) like mobile phones, tablets, and solar energy;

- Collaboration between organizations is essential to stimulate and harvest this **new market potential** of eMobility;

- eMobility is seamlessly part of the ongoing transition to an information society. A vital paradigm shift of the information society is the transformation to "**open sharing**" and away from "proprietary owning";

- We believe together we can create an common foundation based on open sharing to **easy collaboration and innovation to fulfill customers** needs and grow the market.
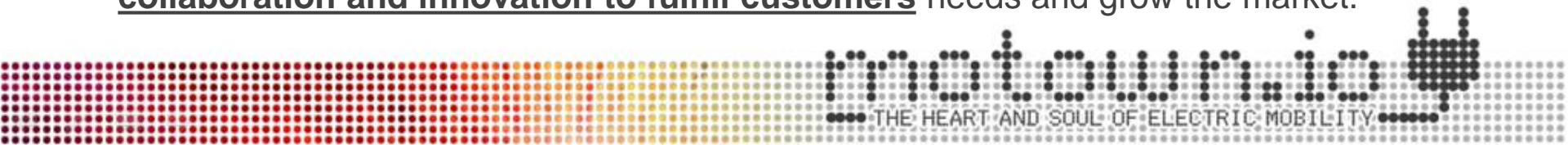
Potential pitfalls

- Market parties are currently individually developing the same basics, amongst others interoperability, which results in **market redundancy of functionality;**

- Every investment in getting the basics in place (which is needed at start of a new market), **limits the investments in real added value services**; whereas developed added value is mostly only situation specific;

- Developing back office systems for a **new markets is expensive**, however proven solutions out of existing markets are likely to be re-usable;

- Lessons of the past learn that **linking different systems in an complex overarching value chain** is usually difficult, costly and time consuming (devil is in the details);

Common ambitions

❖ Agnostic of market - and business model, accelerate the (co)creation of sustainable eMobility solutions by the development of services (baseline and differentiating) related to charging technologies, matching EV-driver needs.

❖ Provide a positive contribution for all partners in the eMobility eco-system:

   ❖ reduction of total cost for innovation, co-creation & ownership/operation;

   ❖ shortening the period to arrive at eMobility solutions;

   ❖ sharing experiences, solutions and knowledge.

How to position Motown?

- Collaborative community for developing applications for eMobility services, based on a Open Source basic IT-platform (Motown Core);

- Fundament to build business applications and value added (software) services upon (no stand-alone solutions);

- Open source platform that is open to all business models, enabling one to distinguish in their own way, but also, if wanted, possible to cooperate with others;

- Pragmatic approach with focus on (your) present-day market and innovation needs:

    - The basic IT platform and add-ons are centrally developed and distributed via internet (Github) where you can download a local copy for free;

    - You implement the downloaded local copy of Motown in your own datacenter. From this moment on, you, and only you, are completely in control of your own local Motown installation;

    - If you want, you can contribute to the (central) Motown community by submitting software code (via pull request Github).

Head start: Managing solutions

- ❖ We created a basic IT platform (Motown Core) for standard communications between data sources and data consumers. The basic IT platform offers a continuous, robust and stable backbone. It was developed based on the lessons learned of three existing back office systems;

- ❖ Achieve 'de-facto' protocols by widespread usage of the platform and/or working solutions. Protocols of interfaces and connections should increase business opportunities for offering (paid) applications and services;

- ❖ Building a community where expertise can be shared for further stimulation of the market, helping each other by debugging, improving and submitting software solutions to the community. An active community will improve the quality and robustness of the platform.

Vision: Commonplace software solutions
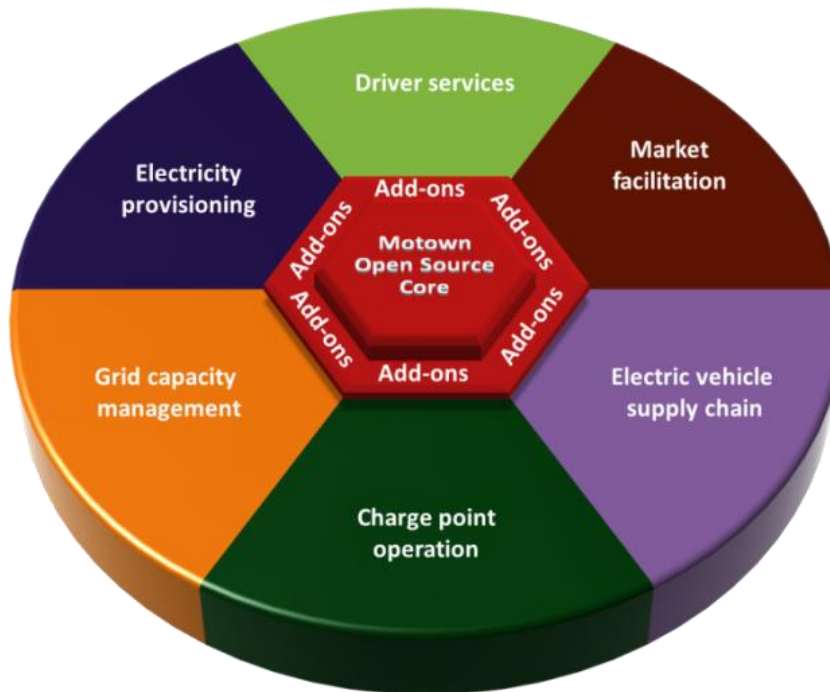
- Exchange of data between different functional areas
- Secure
- Cost-effective
- Extendable
- Scalable
- Flexible
- Testable
- Uniform

Motown Core Architecture
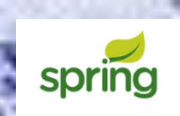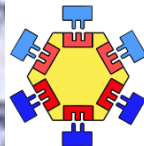

Java 7

Axon Framework
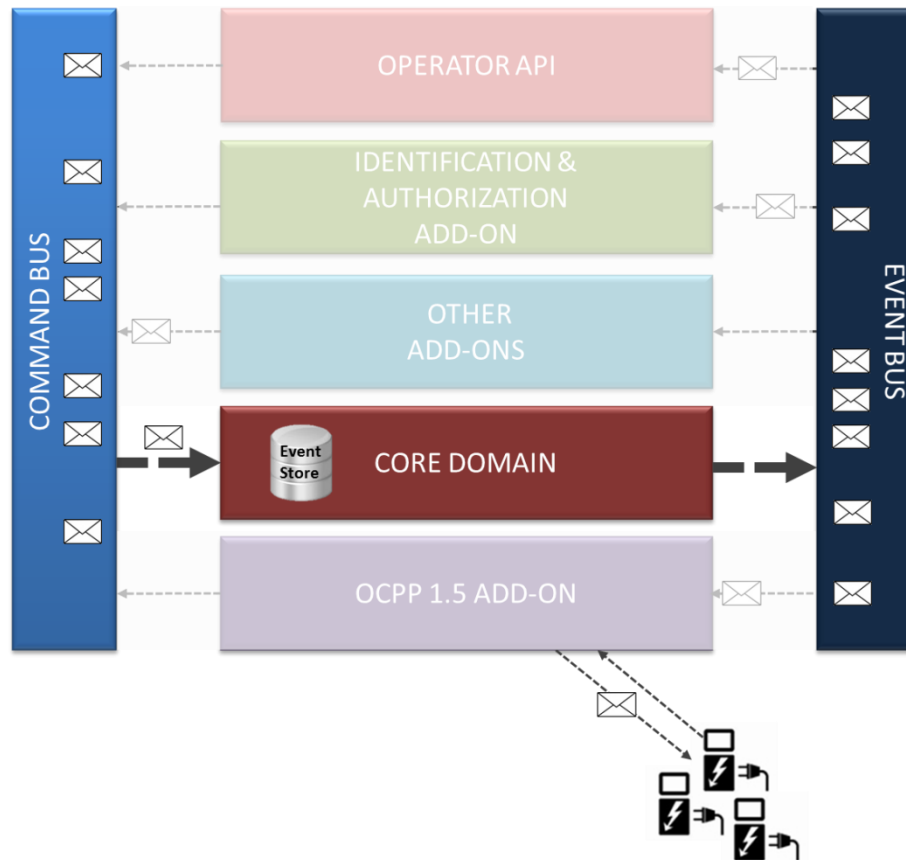
Core of the Core:

- ❖ CQRS Architecture (widely used in social media)

- ❖ Add-on mechanism (Hexagonal architecture)
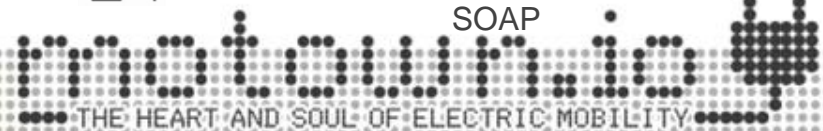
Widely adopted IT development tools:

- ❖ Programming language: Java (main), XML & MySQL

- ❖ Database: Java Persistence API (Tested on MySQL and HSQLDB)

- ❖ HTTP(S) and JSON

- ❖ Web services: REST and SOAP

THE HEART AND SOUL OF ELECTRIC MOBILITY

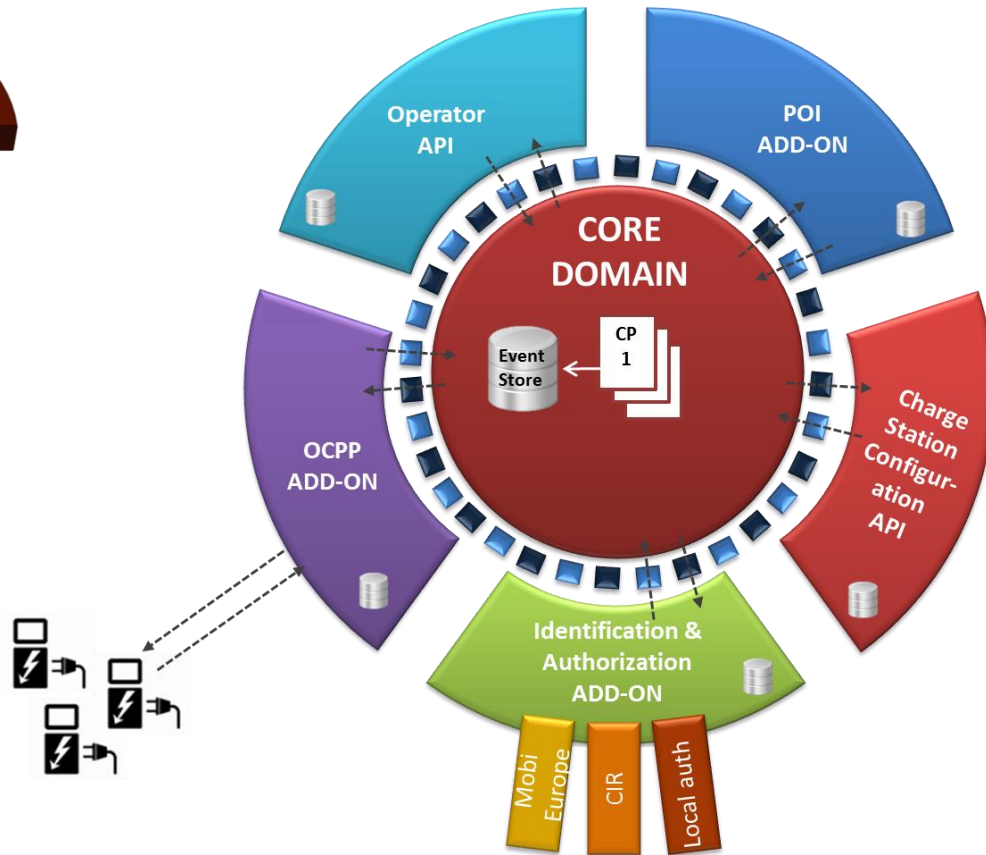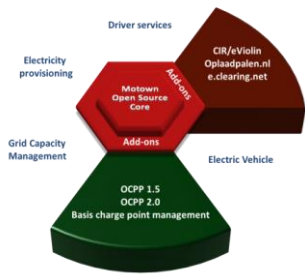# Add-on Architecture

Marketplace for Add-ons: Giving and Taking

🔴 Motown Core – Generic communication platform implemented by Motown organization

🟢 Open source add-ons implemented by Motown organization

🟡 Free choice open or closed source

Free choice earning model

Free choice availability of add-on in Motown marketplace

Community add-ons implemented apart from Motown's technical committees
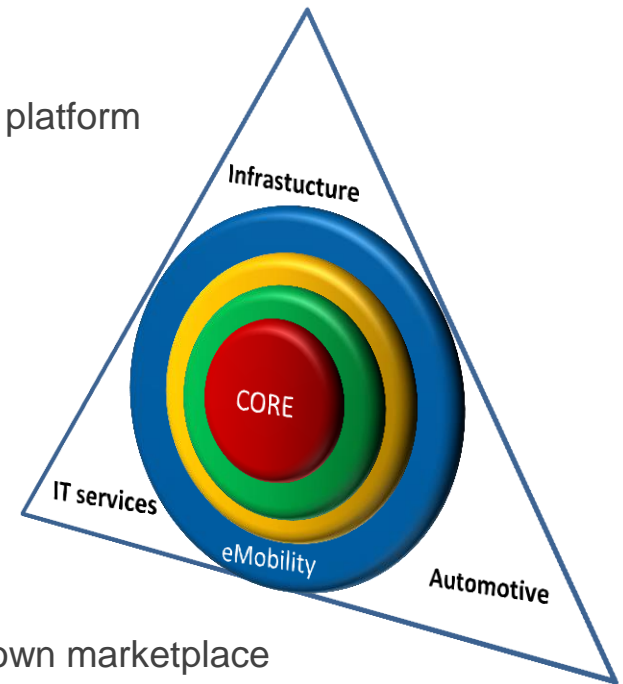
Full control of your business data (your local copy)

Authorize

I&A   POI

External Data Sharing

Event Store

Motown Core

Charge Point Management System

Internal Charge Point Event Communication System

OCPP/J1.2   OCPP/J1.5   OCPP/J1.5

THE HEART AND SOUL OF ELECTRIC MOBILITY

Quality Assurance - ISO 25010 Standard for software quality

The certification body of TÜV Informationstechnik GmbH hereby awards this certificate to the company

Foundation Motown
Westervoortsedijk 73
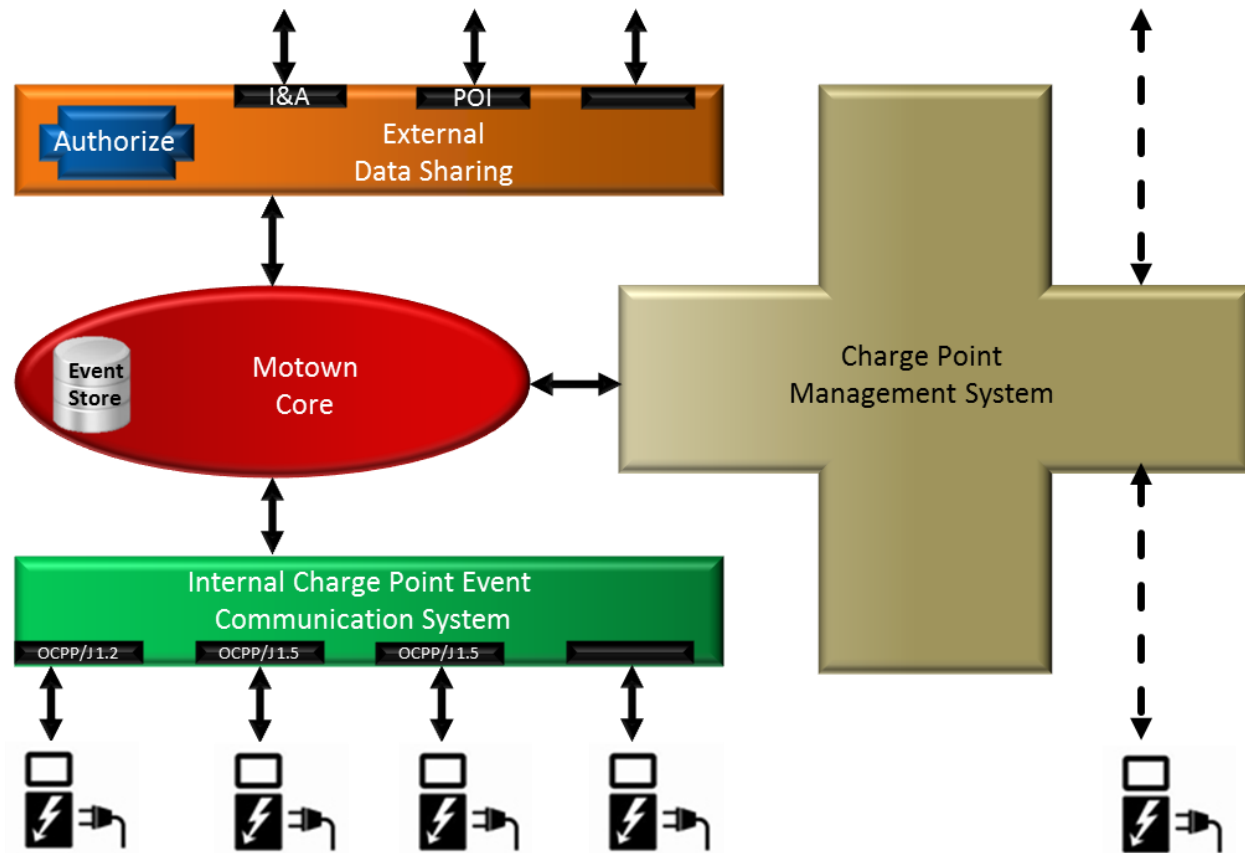**6827 AV Arnhem, The Netherlands**

to confirm that its software product

Motown, version 1.0
(snapshot October 17, 2014)

fulfils all requirements of the SIG/TÜViT Evaluation Criteria

Trusted Product Maintainability V6.1
Level: ★★★★☆ (4 stars)

of Software Improvement Group and TÜV Informationstechnik GmbH. The requirements are summarized in the appendix to this certificate.

The appendix is part of the certificate and consists of 4 pages.

The certificate is valid only in conjunction with the corresponding evaluation report until 2016-11-30.

Main-tainability

TÜViT®
2014 Trusted Product
Voluntary Validation
© TÜViT - Member of TÜV NORD GROUP

Certificate-Registration-No.:
TUViT-TPM6434.14

Certificate

Draft

- ❖ Motown software is fit for purpose

- ❖ Maintainability

  - ❖ Modularity

  - ❖ Modifiability

  - ❖ Reusability

  - ❖ Testability

  - ❖ Analyzability

- ❖ Security: A standard set of security mechanisms for authorization and authentication is present. Every adopters needs to build its own security model on top

Next steps for development

* Current version fit for demonstration, innovation, test & compliance environments, EU projects, etc.

* First actual implementation by Allego later this month. Two other implementations planned 2015-Q1

* Workshop in Q1 for interested organizations targeted at technical audience: either for own use or for implementing services at third parties

* Planned 2015-Q1 developments of Motown foundation

    * More business user friendly interface

    * Implementation configurator

    * New functional add-ons

    * New external Quality Assessment by TüViT

Governance

- Legal structure: Non-profit foundation under Dutch law

- Provides Organizational, Quality Assurance, Promotion & Implementation Support

- 3 founding partners + 4 new partners form executive board of Motown foundation

- Standing invitation for new partners (board & community)

- Foundation is to be financially self sustainable

- Active prohibition of non-ethical use

Permissive License Apache2

Permitted

- Commercial Use
- Distribution
- Modification
- Patent Grant (express grant of patent rights from contributor to recipient)
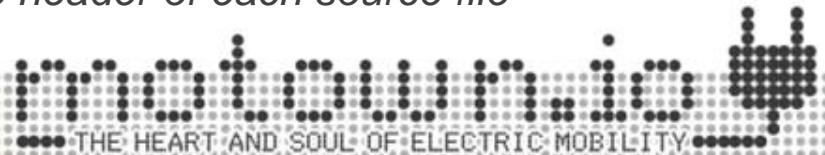- Private Use
- Sublicensing

Required

- License and copyright notice
- State Changes

Forbidden

- Hold Liable (no warranty or hold author liable for damages)
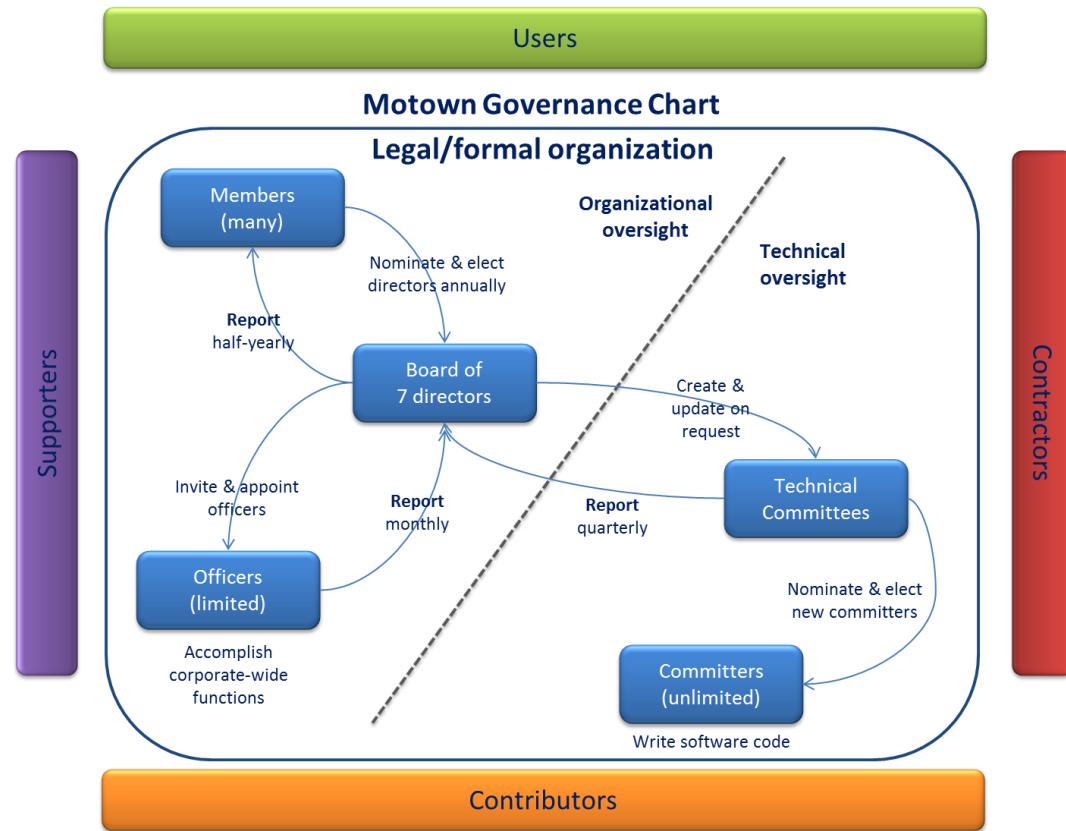- Use Trademark (not use names, logos or trademarks of contributors)

Boilerplate notice to the header of each source file

Motown Organization

Ethos:

- ❖ Merit
- ❖ Consensus
- ❖ Transparency
- ❖ Community
- ❖ Charity

Users

Supporters

Contractors

Motown Governance Chart

Legal/formal organization

Members (many)

Nominate & elect directors annually

Report half-yearly

Organizational oversight

Technical oversight

Board of 7 directors

Create & update on request

Invite & appoint officers

Report monthly

Report quarterly

Technical Committees

Officers (limited)

Nominate & elect new committers

Accomplish corporate-wide functions

Committers (unlimited)

Write software code

Contributors

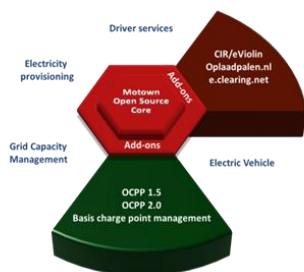THE HEART AND SOUL OF ELECTRIC MOBILITY

Motown Organization

- ❖ Organization by-laws under construction (simplified version of Apache 2)

- ❖ Promotion and branding under construction

- ❖ Committer status awarding and membership levels and benefits under construction

- ❖ First go-to market (with request for feedback) for selected audiences

Roadmap

- Software release 1.0
- Anchoring of the ecosystem
- Handful partners
- First implementations and demonstrators
- Baseline CPO services
- Financial guarantee founders

- First choice for developers
- Main market roles contributing
- Couple dozen partners
- Focus on service innovation
- Motown preferred platform
- Many market services available
- Financial donation founders

- Large & active developer community
- Prerequisite by leading organizations
- Market partner champion
- Mass customization
- Motown leading platform
- Competitive & innovation services
- Completely independent of founders

2014   2015   2016   2017   2018   2019

THE HEART AND SOUL OF ELECTRIC MOBILITY

Call for action

❖ Spread the news!

❖ Want to learn more? Join the Technical Workshop in 2015-Q1

❖ Already a supporter? Get directly involved either as a contributor, committer, member or board member!