



*Electric Motor Werks*  
High Performance Electric Vehicle Conversions



## Newsletter #1

June 8, 2011

Dear friends of EMW,

We are pleased to introduce the first issue of our newsletter!

A lot has happened since the company was founded in September of 2010. The first conversion of the Fiat Spider has completed, we have 4 permanent team members and launched our own website, which you are invited to peruse at your leisure. Do not overlook the EMW news section at <http://www.emotorwerks.com/cgi-bin/news.pl> - we try to update it as well as our EMW

Facebook page  when attention-worthy information comes up.

Let us know what you think about the format of this newsletter – we are totally open to suggestions/recommendations. We will appreciate them very much!

### The latest highlights:

#### Team:

We have a new team member: Mous Tatarkhanov, R&D, working in 2 areas:

- Industrial design of the structural elements for BMW conversion (modular mounting system, motor-transmission coupling)
- Android-based EV control system

Mous has a PhD in Physics from Berkeley and is also working in R&D department of KLA-Tenkor - "the world's leading supplier of process control and yield management solutions for the semiconductor and related microelectronics industries".

#### R&D:

Our 10kW charger was demonstrated to run at 10+kW for the first time on a Fiat pack. We have set up a semi-scalable production operation around this unit so we can fulfill orders much quicker. The next revision of the charger (the 1-hr model) is back in testing. We expect to complete the testing in 2-3 weeks.

We are adding 20 more cells to our Electric Fiat. Objective: improve freeway acceleration, top speed and range (100 miles freeway, 130 miles in the city).

Development of a 1000A EMW motor controller has started. Motor controller is the 'brain' behind all the electric power in the car - it takes input from the gas pedal and translates it into exact amount of power sent from the batteries to the motor. It is key to building high-performance conversions.

A conversion of the first BMW 3-series (E46 body) has officially started. Transmission and flywheel are sent to the shop for machining parts that will connect them to the electric motor. Donor car is still being located so if you know someone who has an E46 BMW with dead engine or other engine / exhaust / cooling / etc. problems - let us know and we may buy it. Whatever the donor, the engine will come out during the week of June 20 and electric components will start going in right after that.

### **PR and Communications:**

We are preparing educational seminars on electric conversion for general and DIY public. If you have any suggestions on suitable venues or would like to invite us to speak- please contact Julia Sirotina at [julias@emotorwerks.com](mailto:julias@emotorwerks.com).

Our first big public exposure at the Maker Faire, San Mateo was a success (see the full article, including our survey results with charts below).



**[Check us out on Facebook and click LIKE](#)**

## **One step closer to the true choice in electric transportation!**

Electric Motor Werks, <http://www.eMotorWerks.com>  
June 2, 2011

On May 21-22, 2011 EMW had its first big public exposure at the Makers Faire (<http://makerfaire.com/>), held in San Mateo, CA. For those of you not familiar with Makers Faire and what it represents - it is the largest Do-It-Yourself event in the United States. Started by O'Reilly Foundation / MAKE magazine in 2006, it now occurs annually, and anyone can apply on-line to participate. You can see a wide variety of the products of human creativity at the faire - from abstract art and music to organic produce; from clothes, hats and match-boats, to robots and cars; from gargantuan Burning Man style fire-breathing dragons to moving rock statues.



Our first electric conversion model – a sexy red convertible Fiat Spider 124 was completed long after the Maker Fair application deadline passed. Nevertheless, event organizers were so impressed by our electric car conversion process that they allowed us to participate anyway. They even gave us a large spot alongside other alternative energy and DIY vehicles near the very popular Coke stage. We had fun neighbors: on the left a new-age bike maker surrounded by extended family with numerous children, and a Compact Solar Trike and hand crafted wooden bike makers on the right, plus a red Miata convertible team in the back. We did not have much time to talk with our neighbors during the exposition, but there was a great socializing opportunity Friday night, just before the official Faire started – a Makers party with free paella, beer and lots of fun.

**I am pleased to report that EMW's First Public Exposure at 2011 Makers Faire was a success!**

First of all, Faire attendance this year was unbelievable. The numbers have not been published yet, but judging from the lack of parking, endless lines for food and just pure visual crowds – I am fairly certain it was a record. I attended the Faire last year, and it seemed the number of people doubled... If it keeps growing like this, Maker Faire will have to find a new venue, repeating the history of Burning Man (which had to move from California to Nevada once it gained more popular cult status.) Crowds can be annoying when you look for parking, but on the other hand, it gives me hope seeing so many people attending this type of the event and being creative and oriented towards better future.

The interest in electric conversion was HUGE. Of course with Makers Faire being held in the Bay Area, we expected a receptive audience, but still.... The EMW team was interviewed for several publications, radio and a Maker Faire blog. Granted, we were not televised as many times as our neighbor on the left, in fact we were not televised at all, not individually, - but who

can compete with a gray-bearded guy with infants and toddlers hanging onto their lives on his purple bike!

From my corporate biopharma PR experience I was prepared to "lure" the public to our booth with the promise of swag for filling out our electric conversion survey. We planned to do a video and photo shoot to post on our website and, as a side effect, potentially attract the public... In reality we barely had time to take breaks with all the questions coming in and the constant flow of people stopping by. We dressed down on Sunday, after realizing that we would not really have time for a proper photo shoot. We ran out of informational brochures by the mid-day Saturday and had to print hundreds more overnight for the next day. And of course all EMW color printers broke that night! Murphy's Law...

Leaving aside unnecessary modesty - our posters were the nicest in both design and content among the automotive/alternative energy vehicles section. The Green theme attracted "organically oriented" Californians and many hundreds did not hesitate to push through the lines towards the banners to read them in detail. Some people, to save trouble, just took a picture of our posters from a distance to study later in peace and quiet.



[Left: Julia Sirotna, PR & Communications; Center (from left to right): Julia Miftakhov (Marketing & IR, Julia Sirotna, Valery Miftakhov (Founder); Right: Andrey Kovalev (R&D)]

Some of us almost ran out of business cards. Overall, we estimate that ~2,000 people stopped by our exhibit and we personally talked to 250-300 people over the 2 day period.

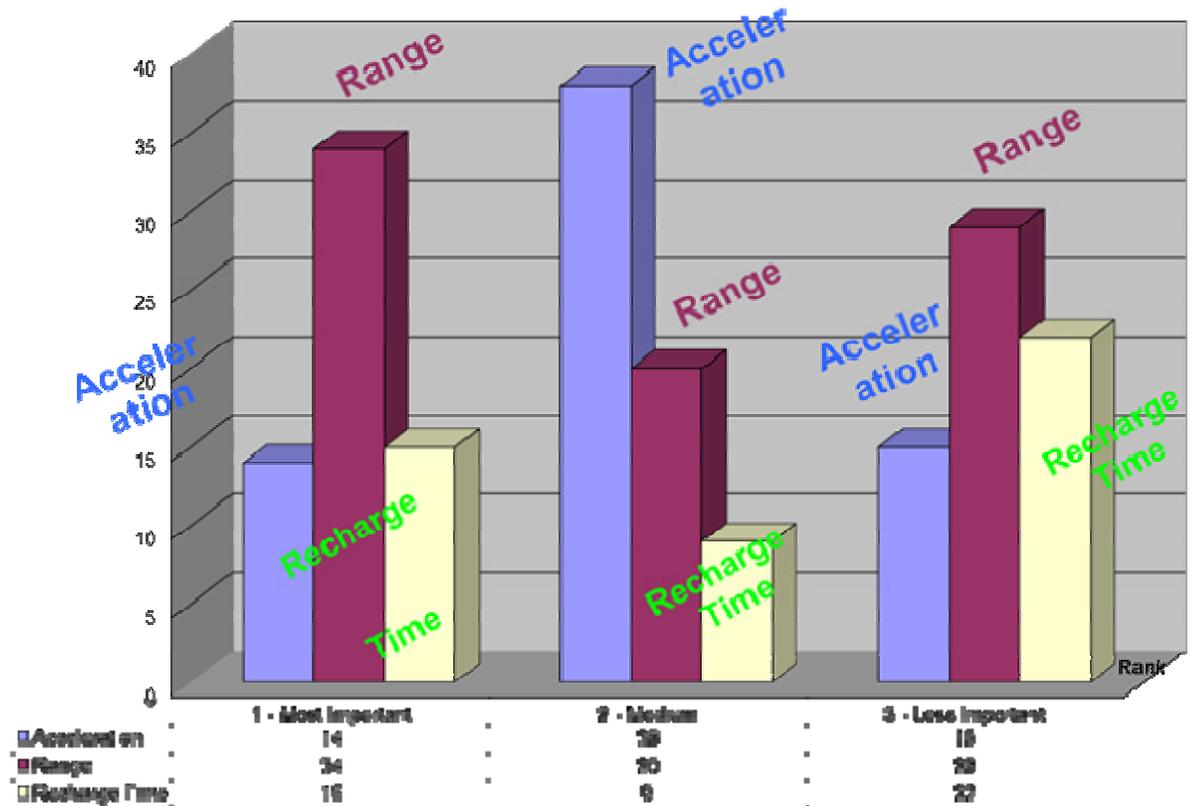
For next year's faire we are expecting to have a number of marketable kits as well as a large show on "how to convert a car over a week-end". We'll most likely have live streaming and a recording of the show, so you won't miss a thing and by the end of the weekend be ready to join the ranks of drivers who want true choice in their electric transportation!

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During the faire we collected 65 surveys to measure public interest in electric conversions. You can find some of the findings below.

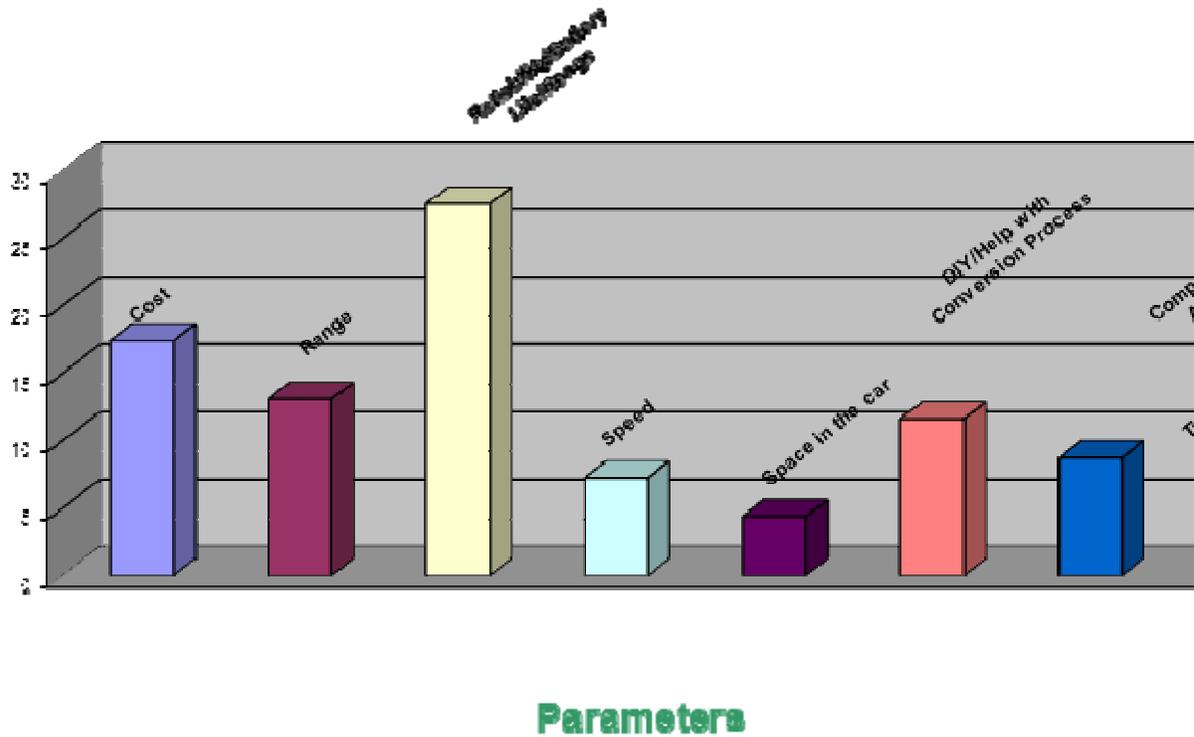
**Primary requirements from a conversion:** Our respondents indicated that they think that the most important parameter factor to conversion is range (57% listed it as #1 in importance). Acceleration almost tied with recharge time - they were rated second and third in importance, respectively.

## Conversion Parameters Rating



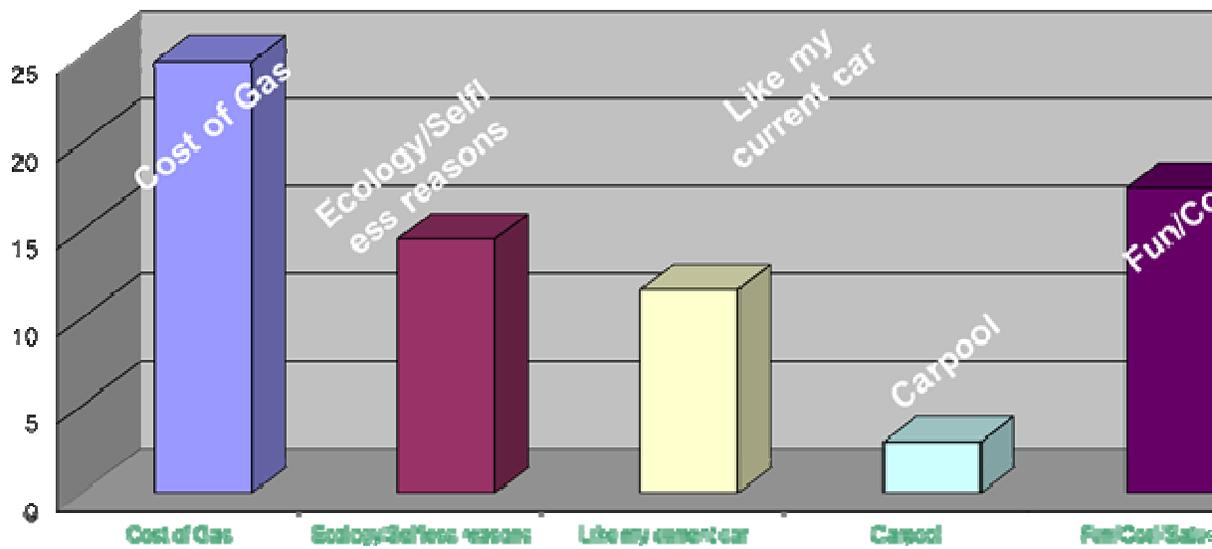
In addition, 28% respondents added Reliability and Battery Life as important factors.

## % of Respondents noting other conversion parameters as important



**Reasons to convert:** Cost of gas scored the highest (23%) as the most frequent reason to convert. Many people thought that electric cars are “cool”, and one respondent wrote “Rock Star status” in his survey as the main reason to convert. Fun/”Coolness factor” came in second almost at the same level as ecology and other “selfless” reasons at 18% and 15% respectively.

## **% of Respondents hand wrote the following reasons for wanting to convert their electric**



Many people were already sold on electric conversion, thinking about making one of their old cars electric. For them, as well as for majority, cost was essential. This was expected, given the DIY spirit of the faire. Nevertheless, our survey showed that FULL 40% of the respondents understand the true value of all conversion benefits and are willing to pay accordingly.

The most popular candidate for e-conversion was Volkswagen bug, someone asked about HAMMER conversion (!) and we received one serious inquiry to convert a silver Rolls Royce (!).

Overall, I think the entire EMW team did an outstanding job so far! In a very short amount of time we managed to show significant progress and gain noticeable exposure. The red convertible Fiat was a great choice for the show. Now we need to keep the momentum. To do this, we are scheduling multiple appearances at various Bay Area events over the course of the summer – stay tuned! We have also been invited as exhibitors and speakers to the first EV conversion conference in the US (ECCON 2011, Missouri, September 2011). We will be

bringing our electric Fiat and BMW to the show and Valery Miftakhov will speak about EV conversion potential in the US and how Electric Motor Werks will help realize this potential.

.... More exciting news to come.....



Electric Motor Werks (EMW) is a California Group focused on promoting high performance electric conversions. Our mission is to dramatically accelerate adoption of electric car conversions and raise the image of the affordable AND fun electric car solutions.

We will accomplish this mission in two ways:

- We will drive down the costs of high performance conversions through open source designs for core EV components. We have already created or actively contributed to open-source designs of a number of high-power electric car components, including a 10kW+ charging system, and a 1000A+ DC motor controller.
- We will make conversions MUCH more accessible to progressive drivers like you. From bolt-on conversion kits for a variety of most popular performance car models to ready-to-drive EVs based on such models, your smart move to the 100% electric drive can be as effortless as you want it to be.

The first turn-key conversion product from team EMW will be targeted at BMW 3-series owners – the largest segment of the mid-luxury car owners. It will be available in the Summer of 2011.

Already available is the EMW 10kW charging system design, kits, and complete units – capable of recharging a 100-mile range EV in 2.5 hours.

For more information, please visit our website at <http://www.eMotorWerks.com> or email to [info@eMotorWerks.com](mailto:info@eMotorWerks.com).

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Julia Sirotina, PR and Communications, EMW  
Photos are courtesy of Jamie Clark, Julia Sirotina and Julia Miftakhov

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