

Konrad Otto-Zimmermann *

Time to question “micromobility”

Can't we avoid the term “micromobility”,
which trivializes human-sized vehicles?

Time to question “micromobility”

I’m not really fond of “micromobility”. Therefore, I might not really make friends with this article. However, please read further before you might misunderstand me.

In my estimate, 90 percent of all car users could make 90 percent of their trips in urban areas with individual vehicles smaller and lighter than a car. No doubt, we need an umbrella term to describe fine mobility with vehicles in the spectrum “between shoe and car”, because besides active mobility and public transport, fine vehicles smaller, lighter and smarter than cars should be the future of urban mobility.

Can't we avoid the term “micromobility”, which trivializes human-sized vehicles? Micro means one millionth. If a cargo bike is considered micro = one millionth, may I ask, a millionth of what? Having thought it through, I am challenging the term “micromobility” as factually false, belittling and implying that gigantomaniac vehicles were the benchmark and “normal”. I am not a friend of puffing and exorbitance in branding and advertising, therefore seeking to challenge the “micros” and “gigas”.

Within a few years, “micromobility” has become a much-noticed phenomenon. The word reflects, however, a questionable scale and an inclination to vastly overstate. Taking a three-ton pickup truck as reference, an electric kick scooter will appear tiny, indeed. The kick scooter is just a footboard with two wheels and handlebars. But is it „micro“ in scale?

Meaning of “micro”

The order of “micro” is 10^{-6} . Maybe we remember the decimal prefixes of the International System of Units (SI) that we once dealt with in our math class. Let’s look at the Meter. In the year 1791, the so-called Standard Meter got defined as the ten millionth section of the distance from Pole to Equator. A tenth of a Meter it is called Decimeter, a hundredth a Centimeter, and a thousandth a Millimeter. The thousandth part of a millimeter, i.e. the millionth part of a Meter, is the Micrometer (μm). To help imagine the scale: this is about the diameter of mitochondria in cells, or the diameter of carcinogenic asbestos fibers. Particulate matter fits into this order, too.

Minimizing mobility to be micro?

The term micromobility implies that it's mobility reduced to microscale. Mobility, according to the Oxford Dictionary, may mean the ability to move freely or be easily moved; the ability to have particular services available; the fact that it is easy for someone to change their situation, for example by doing different work or moving to a different place; or the fact that it is easy to move or transport something from one place to another.

Why should these abilities and conditions be minimized to microscale? It's certainly not what the protagonists of micromobility have got in mind. So the grammatically proper understanding of micromobility does not apply anyway.

Applying the economic-ecological principle?

Could we make sense of micromobility if we see it as applying economic and ecological principles to our transport system? This would mean fulfilling our mobility needs and transport purposes with the transportation option that is:

- lightest, smallest, least energy-consuming, and least costly (economy);
- least polluting, least space-demanding, least noisy, and least wasteful (ecology).

Such *mobility with minimized negative impacts* could be referred to as *minimobility*¹; however, it would be far from current general understanding of the term *micromobility*; moreover, it would be logically incorrect, because not mobility itself but its impacts would get reduced.

More importantly, the application of the economic-ecological principle is one of the defining criteria of *ecomobility*², and we should avoid a confusion of terms.

Mobility with minimized means of transport

If not *mobility* proper but the *means of transport* shall be “micro”, what characteristics are we thinking of? Mass of the body moved? Measurements of the vehicle used? Energy demand per mass/kilometer? Surface area required? Cubature occupied? Speed? A combination of all of this? As will be shown below, there is no generally agreed definition of micromobility. However, serious players in the field are proposing to base the definition on weight and speed.

1 “mini = smaller or less important than a normal example of the same thing”, according to Cambridge Dictionary, <https://dictionary.cambridge.org/dictionary/english/mini>, documented 05 April 2021

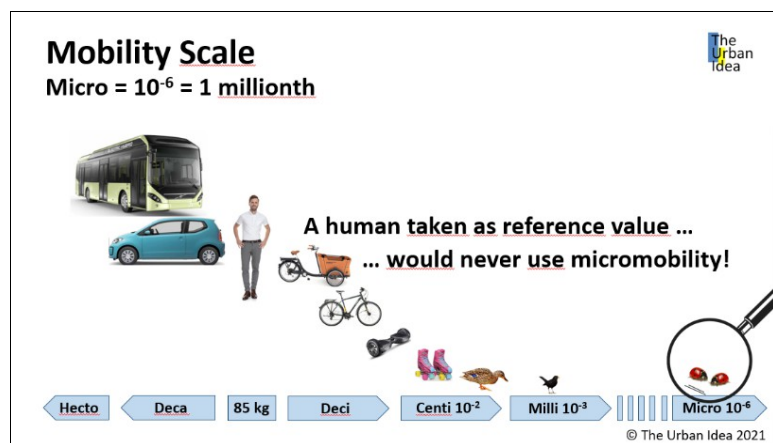
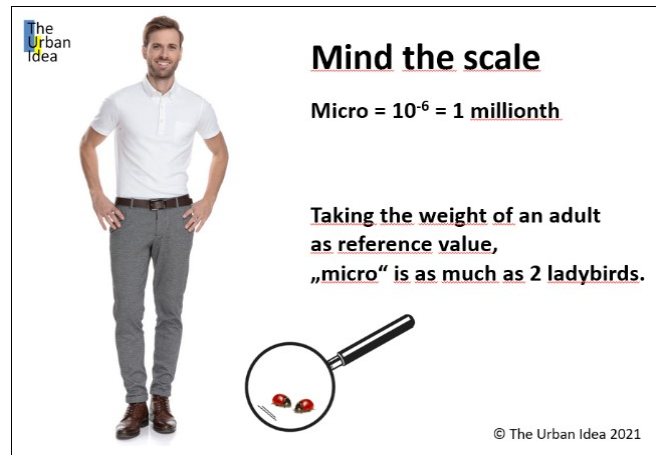
2 <https://www.ecomobilityfestival.net/home/idea-concept-experiences/definition-of-ecomobility/>, documented 05 April 2021

To define or discuss the microscale we must identify the standard reference value. Would it be wrong to regard *human mobility* as reference mobility? When a human walks, we could call this *standard mobility*.

Allow me to use measurements from my country, Germany. In the year 2017, the average German male adult had a standing height of 1.79 meter, a length (i.e. depth) of

0.36 meter, a step length including two shoes of 1.0 meter, a (shoulder) width of 0.50 meter, a weight of 85 kilogram, and a walking speed of 3.6 kilometers/hour.³

To continue my exploration of micromobility, let me just look at *mass* (weight) and *length* representing *measurements* because minimizing these could make sense, while minimizing *speed* below walking speed is certainly nobody's intention.



Light electric kick scooters weigh one tenth of an average human. Movement with such a scooter would be *decimobility*. Searching for a vehicle of *centimobility*, i.e. having 1/100 of human weight, roller skates as probably smallest and snowshoes as probably lightest means of transport are by

far above the threshold. Only the lightest wooden kick scooters for two- to five-year-old kids might reach into this weight category. Devices of *millimobility* are, for example, bum slides with about 80 gram.

Micromobility would mean a once again thousandfold lesser weight, thus about 0.08 gram. Nothing of this scale comes to mind as a means of movement since even a sheet of paper weighs 5 gram. Or has someone ever ridden an ant?

Talking of micromobility therefore appears twisted. Neither does the term come with sincerity nor with clarity about the meaning.

³ Statistisches Bundesamt (Destatis), Körpergröße nach Altersgruppen – Männer. Ergebnisse des Mikrozensus 2017. Stand 21. März 2019.

Revealing a perspective of gigantomania?

My concerns go deeper. What concept of normal or standard mobility does it reveal when someone is referring to a hoverboard or an electric kick scooter as micromobility? Moreover, when micromobilists subsume even bicycles, cargo bikes and two-seater cars under this label? Only if one regards a



Boeing 737-800 airliner as the standard, a cargo bike could be seen as a micromobile.

Just a buzzword

Now I am hearing many of you objecting: Don't take the word micromobility too literally, don't be so serious, shed your German precision, no caviling – just accept it as a marketing term, a label. Ok, I may understand, micromobility is a buzzword, not more. Maybe a term of endearment. A catchword. Or rather a battle-cry in the fight for market shares?

If so, meaning wouldn't matter. It would be sufficient that connotations get awakened as it's generally the case in product advertising where even 44-ton trucks are called "gigaliner". Giga means 10^9 , so I don't need to explain.

Adverse connotations

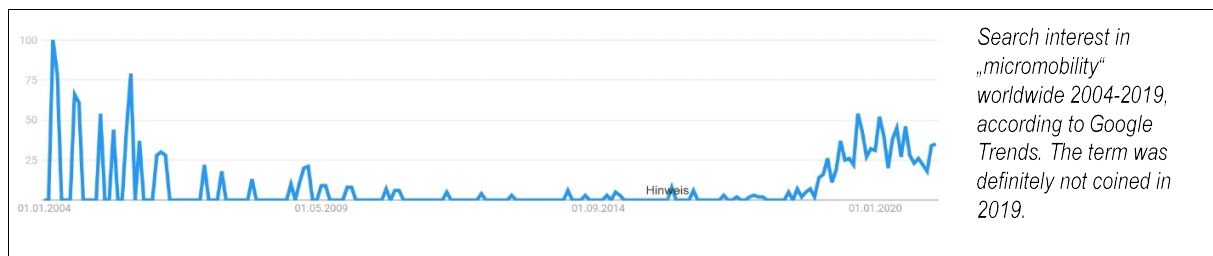
But then, I feel "micromobility" miniaturizes. It has got a touch of a depreciatory, if not derogatory meaning. If we call ecomobility "micromobility", it appears as nothing serious, it's just toys, it's tolerable accessories to real serious mobility, it does not do harm to the automobile world. Unfortunately, and without doubt, the term micromobility trivializes a segment of mobility, which is of exemplary economic and ecological efficiency, and which is key to disarmament in urban transport.

Where does the term micromobility stem from?

Origin of the term micromobility

The description of micromobility is not new at all. Definitions over hundred years ago included privately-owned vehicles invented over a century ago: conventional bicycles, kick scooters and even powered standing scooters (Gibson, 1915) and powered skates (Scientific American, 1906), according to the OECD's International Transport Forum.⁴

Google Trends have captured the search interest in the term micromobility from 2004-2019. It's noteworthy that more searches for the term were conducted in 2004/2005 than during the micromobility (shared e-scooter) hype in 2019/2020. Concerning the origin of queries, the top twelve countries are Norway (index 100), USA (92), Canada (91), Sweden (87), Germany (81), Italy (62), UK (60), Australia (43), Spain (41), India (36), France (34), Brazil (4). The result is quite similar when we look at the most recent five-year period 2016-2020.



However, *Horace Dediu*, industry analyst and founder of the Micromobility podcast, is reported to have *coined* (the ITF attests him to have *popularized*) the term “micromobility” to describe shared vehicles weighing less than 500 kg⁵.

For the creation story⁶, Dediu says that he “*latched onto micromobility as a word because it reminded me of microcomputing*”. Microcomputing changed the world, he says, and likewise micromobility has the potential to do the same. The definition of a microcomputer is that it is powered by a microprocessor, and the microprocessor was itself easily defined as a CPU on a single chip. In short, Dediu says that “*micromobility is to mobility as microcomputing is to computing*”. In keeping with this analogy, Dediu explains that microcomputing was defined around the singular nature of its processing core and nothing else. “*Thus Micromobility should be defined around what is singular about its purpose: moving a human being. It’s defined first and foremost as personal mobility whose utility is to move its occupant. Its purpose is thus to offer maximum freedom of mobility and its minimalism is to do so in the least impactful way. Its minimalism means it needs to leave no trace of itself and ask the least for itself.*” – Interestingly, this is very much in line with the economic-ecological principle explained above.

4 OECD ITF CPB, Safe Micromobility. Report. Paris 2020, p.13

5 <https://micromobility.io/our-team>, documented on 24 March 2021

6 Horace Dediu, The Micromobility Definition, Blog dated 23 February 2019, published at <https://micromobility.io/blog/2019/2/23/the-micromobility-definition>, documented on 24 March 2021

Definitions of micromobility

Dediu⁵⁾ defines micromobility as a function of the human being, with a specific limit. Human-scale means to him that it's a multiple of an attribute of the human. For the metric he chooses *weight*. *"Minimalism in weight means minimalism in many other things that matter."* He proposes a limit for micromobility as *"a vehicle's weight should be no more than five times its expected human payload, or 500 kg"*. He chooses *"a limit that can safely exclude automobiles. 500 kg exposes the 'negative space' between where legacy vehicles are today: either very light <20 kg cycles and scooters, which are a fraction of their occupant's weight, and the minimum 750 kg that seems to be where automobiles can be built."*

The renowned German Fraunhofer Institute points out that there is no distinct and universal definition for the term micromobility in the scientific literature. Considering a wider and a more narrow definition, they chose to adhere to the latter, including electrically powered midget and light vehicles as well as pedelecs for travel over short and medium distances.⁷ In a related publication, Fraunhofer Institute provides profiles of the following micromobile vehicles, what could be seen as definition by example: Electric solo- and two-wheeler; hoverwheel; hoverboard; hovershoe; electric skateboard/longboard; e-kickscooter; e-scooter with seat; two-track personal transporters; narrow-gauge e-mobile; pedal electric vehicle.⁸

Similarly, the German Ministry of Transport, when introducing a regulation on electric mini vehicles in 2019, defined micromobility as *"smaller vehicles with electric drive like e.g. electric kick scooters and segways. These are subsumed under the umbrella term 'Electric midget vehicles'"*.⁹ Bicycles and light electric vehicles above the Segway scale are not included in this definition. The Ministry based its policy-making on a study on electric midget vehicles¹⁰ by the German Federal Highway Research Institute (BASt) which however provided a rather unspecific description of micromobility as means of mobility with small dimensions in relation to other means such as the car.

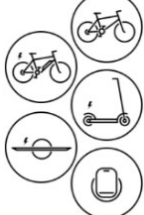



7 Fraunhofer IML and ivm GmbH, Zukunftsfeld Mikromobile E-Tretroller & Co - Anforderungen und Handlungsmöglichkeiten für Kommunen und kommunale Aufgabenträger in der Region RheinMain. Frankfurt und Prien 2019. From: <https://www.ivm-rheinmain.de/was-ist-mikromobilitaet/>, documented on 05 April 2020

8 Andrés Vargas Díaz, Nicole Wagner, Simon Lietz: Zukunftsfeld Mikromobile – Steckbriefe mikromobiler Fahrzeugtypen, Hrsg. Fraunhofer-Institut für Materialfluss und Logistik, IML, Frankfurt o.J. https://www.ivm-rheinmain.de/wp-content/uploads/2019/06/20190625_Steckbriefe_Mikromobile_V15_final-ohne-Bilder.pdf, documented on 05 April 2020

9 Translation by the author. The original German text reads: „Wenn wir über Mikromobilität sprechen, sprechen wir über kleinere Fahrzeuge mit elektrischem Antrieb, wie z.B. elektrische Tretroller und Segways. Diese werden unter dem Oberbegriff „Elektrokleinstfahrzeuge“ zusammengefasst.“ Bundesministerium für Verkehr in digitale Infrastruktur, Elektrokleinstfahrzeuge – Fragen und Antworten, Webseite, <https://www.bmvi.de/SharedDocs/DE/Artikel/StV/Strassenverkehr/elektrokleinstfahrzeuge-verordnung-faq.html>, documented on 05 April 2020

10 Untersuchung zu Elektrokleinstfahrzeugen, Berichte der Bundesanstalt für Straßenwesen (BASt), Fahrzeugtechnik Heft F 125, Bergisch Gladbach 2018, S.14

In contrast, researchers of the Institute of Transport Research of the German Aerospace Center (DLR) define micromobility as “mobility performed by a vehicle with a maximum speed of 45km/h that can carry one or two persons”¹¹. Vehicles under this definition include:

Type A	Type B	Type C	Type D
unpowered or powered up to 25 km/h (16 mph)		powered with top speed between 25-45 km/h (16-28 mph)	
<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)	<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)
			

1. *Large vehicles* such as Renault Twizy, OPEL RAK e; Ökoflitzer Paxter; AlkèATX 320E;
2. *Medium vehicles* such as scooters (e-scooter, mini-scooter, elderly scooter), bicycles (E-bike, delivery bicycle, tandem); Segway
3. *Small vehicles* such as Personal Light Electric Vehicles – PLEV (electric skateboards, electric unicycles, self-balancing two-wheeled boards).

Excluded from micromobility modes are large cars, motorcycles, rickshaws, motor scooters but also walking.

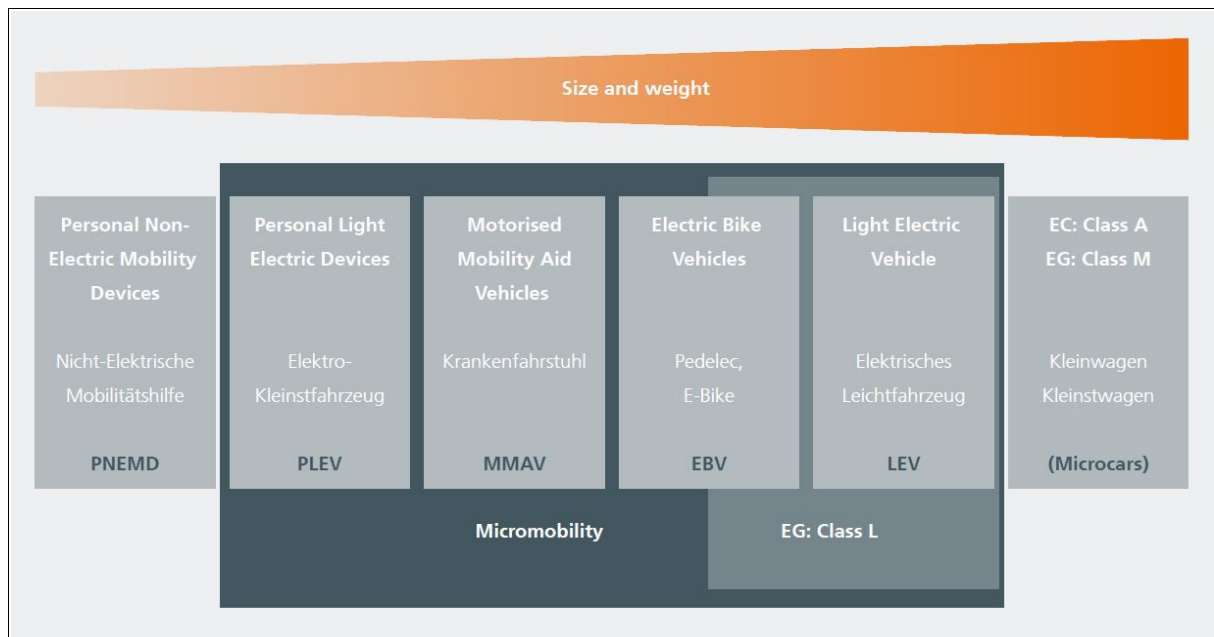
The International Transport Forum (ITF)’s Corporate Partnership Board, in its report on safe Micromobility, has determined that “*Micromobility appears to be here to stay*” and defines micromobility as “*Personal transportation using devices and vehicles weighing up to 350 kg and whose power supply, if any, is gradually reduced and cut off at a given speed limit which is no higher than 45 km/h. Micromobility includes the use of exclusively human-powered vehicles, such as bicycles, skates, skateboards and kick-scooters.*”¹² The ITF proposes a Type A-D classification of micro-vehicles as shown in the chart.

Another comprehensive classification is provided by Fraunhofer IAO.¹³ It includes in micromobility: personal light electric devices, motorized mobility aids and electric bicycles, but neither human-powered bicycles nor light electric vehicles (LEV).

11 Dimitris Milakis, Laura Gebhardt, Daniel Ehebrect, Barbara Lenz: Is micro-mobility sustainable? An overview of implications for accessibility, air pollution, safety, physical activity and subjective wellbeing. Preprint of contribution in Handbook of Sustainable Transport edited by Curtis, C., Elgar Publishing Ltd., forthcoming 2020, Edward. Source: https://elib.dlr.de/134566/1/Milakis%20et%20al_Micromobility%20%28Edward%20Elgar%29_Preprint.pdf, documented on 26 March 2021.

12 OECD ITF CPB, Safe Micromobility. Report. Paris 2020

13 Fraunhofer-Institut für Arbeitswirtschaft und Organization IAO, Mikromobilität – Nutzerbedarfe und Marktpotentiale im Personenverkehr, Stuttgart 2017, p.11



© Fraunhofer IAO 2017

Templeton¹⁴ has proposed to position „minimobility“ between scooters and cars. Its most known representatives would be Renault Twizy und Toyota iRoad. However, this term has not made it to the mainstream.

At the end of 2019, the Society of Automotive Engineers (SAE) issued recommendations for Taxonomy and Classification of Powered Micromobility Vehicles developed by its Powered Micromobility Vehicles Committee.¹⁵ It aims at standardization in terms of “*commonality of terms, definitions, and classifications of powered micromobility vehicles for industry, consumers, and public agencies (e.g., regulators and partnering agencies)*”. Powered micromobility vehicles are defined as vehicles partially or fully powered by a motor with a curb weight of less than or equal to 500 pounds (227 kg) and a top speed of 30 mph (48 km/h) or less. The definition excludes solely human-powered vehicles, such as a bicycle, skateboard, and rollerskates; as well as motorcycles, mopeds and motor-driven cycles exceeding the aforementioned weight and speed specifications. SAE points out that while powered micromobility vehicles may be designed for different purposes, namely human transport, vocational applications and goods delivery, this technical report deals with vehicles primarily designed for human transport.

In terms of taxonomy, it distinguishes between powered bicycle, electric bicycle (e-bike), powered non-self-balancing board, powered self-balancing board, powered skates, powered seated scooter,

14 Brad Templeton, Between Cars And Micromobility Lies 'Minimobility' - A Self-Driving Transportation Revolution. In: Forbes, 12.08.2019, <https://www.forbes.com/sites/bradtempleton/2019/08/12/between-cars-and-micromobility-lies-minimobility-a-self-driving-transportation-revolution>, documented on 11 April 2021

15 Society of Automotive Engineers (SAE), Taxonomy and Classification of Powered Micromobility Vehicles, Surface Vehicle Recommended Practice J3194™, November 2019

and powered standing scooter. In terms of classification, it uses the criteria of curb weight (WT), vehicle width (WD), top speed (SP), and power source (E/C).

SAE's approach to taxonomy and classification appears to be very solid and helpful. Yet, it addresses terms and vehicle categories within what is deemed micromobility and does not look at the position of "micromobility" within the entirety of means of locomotion. Thus the report only covers a section of powered micromobility, which is a section of micromobility.

The branding dilemma

From the viewpoints of ecological and economic efficiency, sustainability, climate protection, and urban quality of life, the rationale for micromobility as Dediu defines it deserves full-hearted endorsement and enthusiastic support. Moreover, the Manifesto published on Micromobility Industries' website¹⁶ is a great call for disarmament in urban transport, a mobility-centered circumscription of Ernst F. Schumacher's plea for reverting to human scale using the motto "small is beautiful"¹⁷.

I fully share Dediu's desire to capture the world of vehicles above the shoe and below the car with a single expression. This is absolutely needed because you can't promote what you can't name.

However, the issue remains that "micro"mobility is an unfortunate term as set out above. When the term micromobility popped up, it was immediately seen related to the novel, electric mini-vehicles that have appeared in recent years, enabled by modern battery, motor, sensor and microprocessor technologies, such as electric kick scooter, hoverboard or hovershoes. Over time the protagonists of micromobility appear to have widened the umbrella to cover the entire bicycle sector, light electric vehicles of all sorts, up to small electric cars.

While some definitions apply as key criterion the power mode (human vs. electric), others apply weight and speed or coverage by the EC class L as key criteria.

The branding confusion

Specific segments of fine mobility are already coming with their own terminology. What's around?

¹⁶ <https://micromobility.io/manifesto>, documented on 24 March 2021

¹⁷ E F Schumacher, *Small Is Beautiful: A Study of Economics as if People Mattered*, Vintage Publishing 1993

- Personal Mobility Device (PMD) – “small wheeled devices that provide personal mobility such as wheelchairs, skateboards and skates”¹⁸ or “any vehicle (excluding wheelchairs) designed for a single user that has one or more wheels, uses an electric motor, has a stopping system controlled by brakes, gears, or other controls, and is only capable of moderate speeds”¹⁹.
- Personal Transporter (PT) – according to Wikipedia²⁰ “a class of compact, mostly recent (21st century), motorised micromobility vehicle for transporting an individual at speeds that do not normally exceed 25 km/h (16 mph). They include electric skateboards, kick scooters, self-balancing unicycles and Segways, as well as gasoline-fueled motorised scooters or skateboards, typically using two-stroke engines of less than 49 cc (3.0 cu in) displacement”. Reference is made to legal classification by the UK Department for Transport and to a technical paper from the Victoria Transport Policy Institute in Australia. “Generally excluded from this legal category are electric bicycles (that are considered to be a type of bicycle); electric motorbikes and scooters (that are treated as a type of scooter); and powered mobility aids with 3 or 4 wheels on which the rider sits (which fall within regulations covering powered mobility scooters)”. The reference here are EU regulations for e-bikes, pedelecs and speed pedelecs.
- Electric personal assistive mobility devices (EPAMD) – defined as “power-assisted devices for mobility such as wheelchairs, scooters, and more recent innovations such as the Segway™ Human Transporter”.²¹
- Light Electric Vehicle (LEV) – according to the global trade organization Light Electric Vehicle Association (LEVA) “defined as battery, fuel cell, or hybrid-powered 2-or-3-wheel vehicles generally weighing less than 200 pounds (100 kg)”²². For the European branch association LEVA-EU, “the term LEV covers all electric vehicles designed for on-road use listed in the L-category. This is a European technical categorisation of vehicles that includes mopeds and motorcycles as well as other small vehicles with 2, 3 or more wheels such as electric bikes, electric cargo-bikes, quadrimobiles, etc.”²³ The LEVA website specifies the following, among others: electric quadricycles, electric recumbent cycles, electric trailers, electric folding cycles, electric velomobile, electric self-balancing vehicles; monowheels.

18 Todd Litman and Robin Blair, Managing Personal Mobility Devices (PMDs) On Nonmotorized Facilities, Victoria BC 2017, https://www.vtppi.org/man_nmt_fac.pdf, documented on 24 March 2021

19 <https://www.yourdictionary.com/personal-mobility-device>, documented on 24 March 2021

20 https://en.wikipedia.org/wiki/Personal_transporter, documented on 24 March 2021

21 <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/electric-personal-assistive-mobility-devices>, documented on 24 March 2021

22 <http://extraenergy.org/main.php?language=es&category=information&subcateg=99&id=2285>, documented on 24 March 2021

23 LEVA-EU website, <https://leva-eu.com/our-scope/>, documented on 25 March 2021

Wikipedia gives as examples for LEV electric bicycles, electric kick scooters, electric skateboard, electric unicycle, onewheel, etc.²⁴

Quite obviously, classification and legislation are in the flux. The more we search on the Web and dig into sources, the more it becomes apparent that there are three categories of sources:

- Legal definitions, which are state-, country- or EU-based and define specifications of vehicles for the sake of determining: the criteria for homologation (i.e. certification of satisfying the requirements set by regulatory bodies); the requirement of a driving license; the obligation to wear a helmet, to put on a safety belt, or have insurance coverage; the roadway (sidewalk, bicycle lane, ..) which must or may or mustn't be used; the maximum speed; the maximum total weight; etc.;
- Technical definitions by industry and user associations, official technical advisory bodies, research institutes and similar;
- Promotional definitions introduced by activist protagonists of the specific segment of mobility or vehicles respectively, whether representing users or the micromobility industry.

Inescapably locked into micromobility?

Some organizations have fully associated themselves with the term micromobility so that for them, abandoning the brand would mean losing their anchor or even their identity. Let's look at two examples.

Deutsche Messe (German Fair) launched an annual Micromobility Expo in 2019. Their notion of micromobiles embraces monowheels, hoverboards, segways, pedelecs, e-bikes, cargo bikes, e-kickscooters, e-motorcycles, s-scooters, quads, light utility vehicles, rehab vehicles, midget vehicles.²⁵ Presumably they would not want to re-brand the still young expo project, although a modification of concept and name could still be effected and explained.

Swiss-based Micro Mobility Systems Inc. markets inline skates; kick scooters, small bicycles, luggage kick scooters, kick boards, seatless bicycles ('pedalflow'), kids balance bikes, suitcases on wheels, and the Microlino® fine car resembling the historic BMW Isetta as well as the three-wheel Microletta® electric scooter. Their entire enterprise and brand are fixated on micromobility.²⁶

24 https://en.wikipedia.org/wiki/Light_electric_vehicle, documented on 24 March 2021

25 Deutsche Messe, micromobility expo 2022 (Factsheet), Hannover 2021

26 <https://www.micro-mobility.com/en/home>

“Micromobility for Europe” as a coalition in order to “transform urban mobility in Europe”²⁷ was founded in early 2021 by the companies Bird, Bolt, Dott, FreeNow, Lime, TIER, Voi and Wind, referring to themselves as shared micromobility providers.

Micromobility business

The McKinsey Center for Future Mobility has considered the size and scope of the shared micromobility market. They are pointing out that “stakeholders have invested more than \$5.7 billion in micromobility start-ups since 2015, with more than 85 percent targeting China. The market has already attracted a strong customer base and has done so roughly two to three times faster than either car sharing or ride hailing.” They conclude that *“the micromobility phenomenon has the potential to disrupt the industry. Whether the disruption it causes matches the hype generated so far will largely depend on how cities react to the service.”*²⁸ – The context leads to the conclusion that McKinsey, when looking at ‘micromobility sharing’, is in fact basically meaning electric kick scooters.

Dediu is quoted to have said *“micromobility is a software business”*.²⁹ Dediu is a team member of Micromobility Industries, a company based in Oakland, California, which maintains a website with blog, organized the first Micromobility America conference focused on “unbundling the car with lightweight electric vehicles” in 2019, and appears to be the key convener of the micromobility community in the U.S. In 2019 the company unveiled what it calls the world’s first comprehensive view into the micromobility space, namely a chart listing companies active in this field. Then featuring 139 companies, the latest edition features more than 700 companies in the space. The company presents this as evidence of the *“astonishing pace at which the micromobility ecosystem is growing”*.³⁰

Bastions of calm

Micromobility as a notion and an industry-driven business segment has entered the scene with significant momentum. Initially rooted in the promotion of small electric vehicles such as electric kickboards and kick scooters and respective scooter sharing businesses, its protagonists have been claiming more and more reach, notably to cover bicycles in all forms, moreover, small two-seater or four-seater cars and even light utility vehicles.

27 Micromobility coalition launches to transform urban mobility in Europe. Blog 2/2/21, source: <https://www.bird.co/blog/>

28 McKinsey, Micromobility’s 15,000-mile checkup, 2019. <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/micromobilitys-15000-mile-checkup> documented on 28 March 2021

29 Porsche Consulting, Deconstructing the Micromobility Phenomenon, Stuttgart et.al 2019, p.7.

30 <https://micromobility.io/landscape>, documented on 24 March 2021

However, according to my observation, neither the **bicycle** industry and trade nor the associations of bicycle users are regarding bicycles in their various forms as micromobility. They appear to feel safe and regard micromobility as a segment of vehicles surrounding, but not usurping them; this may explain why they are not even fighting the invasive definition of micromobility.

Similarly, **personal mobility devices** industry and trade do not consider themselves to operate in the micromobility space. Yet, rollators, wheelchairs with manual and electric propulsion, electric mobility scooters (in Germany referred to as Seniorenscooter = scooter for seniors) are serious means of locomotion.

Producers of **electric mini trucks** that doubtlessly fall into the category of fine mobility are generally not marketing their products under the micromobility label.³¹ Understandably, producers don't want to imply that their utility vehicles were toys.

It should also be noted that the World Economic Forum in their paper on taxonomy of delivery devices³² does not refer to the term micromobility a single time.

What about governments, cities and planners? The Association of German Cities (DST), in its position paper on sustainable mobility for all³³, does not refer to micromobility or midget vehicles a single time, nor does the Association of German Urban Planners (SRL), in their guidebook on sustainable mobility³⁴. The European Commission's Communication "Together towards competitive and resource-efficient urban mobility" of 2013³⁵, which has laid the ground for Sustainable Urban Mobility Plans, does not mention micromobility at all. Nor does the German Advisory Council on the Environment in the urban mobility chapter of its 2020 report "Towards an ambitious environmental policy in Germany and Europe"³⁶ make reference to micromobility. In most local transport development plans (German: Verkehrsentwicklungspläne) or Sustainable Urban Mobility Plans of European cities, micromobility does not figure as a major contributor to urban sustainable mobility strategies.

In conclusion, it's noteworthy that that there are significant bastions of calm in the micromobility storm.

31 Examples: Elektrofrosch Berlin, <https://www.elektrofrosch-berlin.de>; Alkè, <https://www.alke.com/mini-trucks>; Kayun Pickman, <https://www.thepickman.com/pickman-classic>

32 World Economic Forum, Taxonomy for Segmentation of Autonomous Delivery Vehicles and Personal Delivery Devices, Community Paper, Cologne 2020

33 Deutscher Städtetag, Nachhaltige städtische Mobilität für alle. Agenda für eine Verkehrswende aus kommunaler Sicht. Positionspapier. Berlin und Köln 2018

34 SRL-FMV-Arbeitskreis „Planungsinstrumente nachhaltiger Mobilität“, Planungsinstrumente für eine nachhaltige Mobilität. Berlin 2020

35 European Commission, Together towards competitive and resource-efficient urban mobility, COM(2013) 913 final, 2013

36 German Advisory Council on Environment, Kapitel 6 "Für eine aktive und umweltfreundliche Stadtmobilität: Wandel ermöglichen" (chapter available in German only), in: Towards an ambitious environmental policy in Germany and Europe, Environmental Report, Berlin 2020

What to do with micromobility?

Presumably, we cannot get rid of the term micromobility anymore. Too deep has it eaten into our language. Gloomily about its campaign of conquest I tend to say:

Note to cyclists associations: Forget about bicycles, active mobility, cycling – you are now part of micromobility. Note to the producers and vendors of e-scooters: You are just micromobility. Attention Renault, your Twizy may weigh six times as much as its driver, cover 2.5 square meters of surface and its exterior volume may be 35 times the volume of the driver it carries – it nothing more than micromobility. Note to medical stores: Your mobility scooters with 40-120 kilograms of weight are micromobility from now on.

But what do we gain if we label all these useful, respected, flexible, economical, eco-efficient vehicles “micro”? My straight answer is: nothing.

Therefore, I would like to encourage the cycling lobby to withstand the attempts by micromobilists to subsume bicycles under micromobility. Remain self-confident and stay with active mobility and cycling. Similarly I would like to caution the developers and producers of small, light, electric pods and cars not to be taken in by the promoters of the term micromobility.

Fine mobility

We are basically talking about the sphere of means of locomotion – be they vehicles or mobility aids – in the range “between shoe and car”. Applying the economic and ecological principles explained earlier on, this segment of devices could be subsumed under “ecomobility “. However, ecomobility is defined as equivalent to the German “Umweltverbund”, i.e. the combination of walking, cycling, wheeling and use of public transport as alternative to the private automobile. Therefore, to avoid confusion, we won’t recommend using this term for mobility with these devices.

What all these means of locomotion have in common is that they are fine, namely according to Collins and Merriam-Webster: small, light, slender, first-class, first-rate, classy, great, superior, pleasant, agreeable, decent, adequate, satisfactory, serviceable, alright. That’s the opposite of rough, oversized, heavy, bulky, thick, fat, pompous, ponderous, colossal, gigantic, intolerable ... Something to consider.

Konrad Otto-Zimmermann, Dipl.-Ing. Mag.rer.publ., is the Creative Director of The Urban Idea, Freiburg/Germany, and the former Secretary General of ICLEI – Local Governments for Sustainability. Contact: info@theurbanidea.com

Layout und Publikation:

Trialog Publishers Verlagsgesellschaft
Eberhard Buhl | Christine Ziegler
D-72270 Baiersbronn | T: +49 7449 91386.36

DOK micromobility | Mai 2021
www.internationales-verkehrswesen.de
