Electric bicycles from China

Complaint under Article 5 of Regulation 2016/1036

Open Version

Lodged on 7 September 2017

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1. Introduction

1. The European Bicycle Manufacturers Association (“EBMA”, the "Complainant"), on behalf of Union producers of electric bicycles, requests that the European Commission ("Commission") initiate an anti-dumping ("AD") investigation pursuant to Article 5 of the Basic Regulation[1] concerning imports of electronically power assisted cycles ("EPACs" and "Speed EPACs", together "electric bicycles" or "e-bikes") from the People’s Republic of China (“China”) ("product concerned") with a view to the imposition of AD measures for a five-year period ("the Complaint").

2. EPACs are an invention of the EU e-bike industry[2] The companies supporting the Complaint and other EU producers as well as EU parts manufacturers, such as Bosch, which developed the leading engine type, have invested hundreds of millions of euros in this high-tech product over the last 20 years.[3] Indeed it requires substantial R&D to develop a pedal assist motor that can adjust smoothly on a continuous basis to the riding speed, rhythm and force put on the pedals. Bosch developed the first centre engine system for e-bikes in 2010,[4] and that revolutionised the e-bike industry. Indeed, the centre engine system was essential in particular to the success of e-trekking bikes and e-mtbs (mountain bikes), which do not work well with low-quality hub engines.

3. E-bikes are an important contributor to the EU's environmental and climate change targets as they have the potential to change urban traffic significantly. They are at the forefront of the Intelligent Transport Systems initiative, a priority for the European Commission[5] which will improve safety in the transport sector, and play an increasing role in urban transport. E-bikes are only the beginning and the EU industry is already today developing smart bikes that will – in addition to pedal assistance – provide enhanced security and guidance systems to the rider, such as traffic warnings, information on the fastest/safest route, etc.

4. Furthermore, EPACs open the biking experience to a larger part of the population as the pedal assist motor also enables elderly people and less athletic people to use a bike, and for longer distances. In certain parts of Europe, the usage of public transport has decreased noticeably due to e-bikes. For instance, in the Netherlands, parents offer their kids the choice between the annual bus subscription and an e-bike to go to school. This in turn reduces urban (noise) pollution.

5. Accordingly, the EU e-bike market has grown continuously in recent years and it is expected to continue to play an important part in the achievement of the EU's 2020 climate targets.[6]

6. The Chinese bicycle industry has also seen the potential of the EU market and since 2014 has increasingly penetrated the EU market with highly dumped and subsidised EPACs in order to ease pressure from their tremendous domestic structural production overcapacities.

7. Chinese bicycles producers have built electronic bikes for the last two decades. However, these have been self-driving throttle bicycles, comparable to a small, light-weight moped in the EU. In recent years, however the growing Chinese middle class has chosen cars over the traditional Chinese electric bicycles. Also, due to safety reasons, Chinese city administrations in Beijing,

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1 Regulation (EU) 2016/1036 of the European Parliament and of the Council of 8 June 2016 on protection against dumped imports from countries not members of the European Union, OJ 2016 L176/21.

2 This has been acknowledged by the Council. See Regulation 502/2013, recital 249.

3 See **Annex 1,** Overcapacities and saturation of the Chinese e-bicycle market, subsidies to Chinese e-bike and parts producers.

4 See **Annex 2**, E-bike engines of Bosch and Bafang.

5 See **Annex 3**, EU policy for sustainable urban mobility – focus on cycling.

6 See Regulation 502/2013, recital 249.

Guangzhou Shanghai and Shenzhen have in recent years prohibited the use of Chinese style e-bikes in large parts of those cities.[7] In addition, Chinese motorcycle manufacturers have entered the e-bike industry as domestic Chinese demand for motorcycles has also been shrinking due to bans in most cities.

8. These developments led Aima's Vice President Wang Wei last year to the conclusion that "China e-bikes have entered a bottleneck period in their industry", and he asked "How can Chinese e-bike companies export their products and increase brand awareness?" [8]

9. With huge government-subsidised production overcapacities in China, Aima sees the solution in the opening of a presence in Switzerland[9] as hub for sales to the EU market, as a first step, and subsequently, a presence in Germany directly.[10]

10. The export of EPACs is also a clear goal of the 13th 5-Year Plan for e-bikes. The plan acknowledges that during the application period of the 12th 5-Year Plan, the *"added value of exported products was low"* and Chinese EPACs were *"still at the lower end of global value chain"*.[11]

11. The 13th 5-Year Plan therefore sets a clear goal that the *"export of electric bicycles will be dramatically increased"* and the *"portion of middle and high-end bicycles and lithium battery electric bicycles will be increased year by year"*.[12]

12. Accordingly, the 13th 5-Year Plan (and partially already the 12th 5-Year Plan) put a particular focus on subsidising the further development e-bike relevant bicycle parts, such as the centre engine technology, the torque sensors, the batteries and electric control system for electric bikes.[13]

13. At the 2016 e-bike show in Shanghai, large Chinese producers such as Aima, Tianjin Golden Wheel and Battle-Fushida [14] showed that the Chinese producers have made a strong move away from the production of Chinese-style electric throttle bicycles and towards EU-style EPACs (which do not drive without human power).

14. Chinese production of EPACs grew at double-digit rates in recent years[15], and at the 2017 Shanghai bicycle fair, *"the number of e-bike exhibitors [was] striking"*.[16]

15. Indeed, in addition to the ban of Chinese-style throttle electric bicycles in several major cities in 2015/16, the market entry of bike-sharing companies in 2016 introduced a new source of excess supplies in the Chinese bicycle market. Competing via volume and subsidised prices, sharing companies like Mobike, Ofo and Obike flooded big Chinese cities with bicycles, leading to a tremendous oversupply of sharing bicycles within less than 12 months. In the first half of 2017, bike sharing companies placed more than 20 million bikes on the Chinese market,

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7 See **Annex 4**, China Bans E-Bike Use in Major Cities.

8 See **Annex 4**, AIMA Hi-Tech launches business in Switzerland, page 3.

9 See **Annex 4**, AIMA Hi-Tech launches business in Switzerland, page 3.

10 See **Annex 4**, Will the export to Foreign Markets be a new way out for Chinese Electric Vehicles?, pages 6 and 7.

11 **Annex 7**, 13th 5-Year Plan for the E-Bicycle Industry, page 5.

12 See **Annex 6**, 12th 5-Year Plan for the E-Bicycle Industry, pages 6 to 13, and **Annex 7**, 13th 5-Year Plan for the E-Bicycle Industry, page 6.

13 See **Annex 6**, 12th 5-Year Plan for the E-Bicycle Industry, pages 6 to 13, and **Annex 7**, 13th 5-Year Plan for the E-Bicycle Industry, pages 11 to 13.

14 See **Annex 4**, 2016 Shanghai Show: Chinese E-Bike Makers Turn to Europe.

15 See **Annex 4**.

16 See **Annex 4**.

of which 11 million bikes were manufactured by Fushida. In Shanghai alone, bike-sharing companies placed 450,000 bikes on the market in only 6 months. This created enormous logistical and environmental problems with bikes "parked" everywhere.[17] In that manner, the flagship companies, Mobike and Ofo, accumulated more than 25 million active users in less than one year. These bike-sharing companies mainly source from large State-owned or State-subsidised suppliers like Phoenix and Fushida, or have set up their own production facilities (e.g. Mobike in cooperation with Foxconn). Although these producers experienced a (temporary) revival of their production and even increased capacities and production, traditional bicycle producers that do not have supply contracts with the bike-sharing companies have struggled with drastic demand decreases as consumers no longer purchase their own bicycles. Accordingly, total bicycle sales in China have declined 60-70% in the last year, resulting in further structural production overcapacities.[18] This is no accident as Ofo's declared mission, for example, is *"to make bike ownership dispensable"*.[19] In addition, there are no plans for the time after the bike-sharing companies will have completely met demand for bike-sharing bicycles.

16. The Chinese bicycle industry therefore – supported by the 5-Year Plan – tries to find relief for the pressure from its overcapacities via exports[20], or in other words by extending their internal State-subsidised price wars to third countries.[21] As the production and assembly of EPACs can be done with the same equipment and personnel as the production and assembly of traditional bicycles and Chinese-style throttle e-bikes[22], switching to EPACs has become highly attractive to Chinese producers in light of growing demand oversees, and mainly in the EU.

17. The trend has also been noticed by the specialised press, which reported that Chinese production of Western-style e-bikes during the first half of 2014 was 1.7 million.[23] For 2015 Q1, the figures reported were already 5.74 million[24], which would correspond to an annual production volume of approximately 20-24 million. For 2016, the e-bike capacity in China was estimated at 40-50 million and the overcapacity of 20-25 million.[25] By comparison the total (traditional) bicycle production in China in 2016 was 80 million pieces, of which over 70% were exported.[26] Indeed, these figures also match with the data of CONEBI, the Confederation of European Bicycle Industry, collected via various market sources, that places 2016 e-bike capacities in China at 51 million and consumption at 28 million bikes, and the production of standard bicycles at 80 million pieces.[27]

18. With domestic demand for traditional Chinese-style throttle e-bikes decreasing due to bans in big cities and competition from bike-sharing companies for "last mile" rides, Chinese e-bike

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17 See **Annex 4**, Problems generated by e-bikes oversupply in China.

18 See **Annex 4**, FT – China's bicycle-sharing boom poses hazards for manufacturers, page 5. See also **Annex 5**, Overcapacities of e-bikes in China.

19 See **Annex 4**, With $700 Million Chinese Bike Sharing Firm Ofo Targets Europe.

20 See **Annex 4**, China's bikes are "cycling" to the world, looking forward to opening up new markets, pages 5 to 8.

21 See **Annex 4**, Will the export to Foreign Markets be a new way out for Chinese Electric Vehicles?, page 6.

22 See **Annex 5**, Overcapacities of e-bikes in China. See also **Annex 4**.

23 See **Annex 4**, China’s E-Bike Industry Enters New Era with Production Drop.

24 See **Annex 4**, Will the export to Foreign Markets be a new way out for Chinese Electric Vehicles, page 4.

25 See **Annex 5**, Overcapacities of e-bikes in China. See also **Annex 4**.

26 See **Annex 4**, 27th China International Bicycle Fair Kicked off in Shanghai. See also **Annex 5**, Overcapacities of e-bikes in China, and **Annex 4**, *China's bikes are "cycling" to the world, looking forward to opening up new markets* which places the 2016 e-bike overcapacities at at least 10 million pieces.

27 See **Annex 5**, Overcapacities of e-bikes in China.

capacities are increasingly utilised to manufacture for export and most factories can already produce EPACs.[28]

19. As bicycles and e-bikes are a clear focus area in China's 12th and even more in China's 13th 5-Year Plan for Bicycles[29], the Chinese bicycle producers have thereby been able to obtain heavy State-subsidies from authorities at provincial, regional and local levels. These subsidies have enabled the Chinese e-bike producers and their suppliers, most importantly Bafang, the main Chinese producer of e-bike engines, to catch up quickly with the EU industry in terms of know-how.[30] As stated above, moving into the middle and high-end segments and increasing exports have been clear focus areas under the 12th and 13th 5-Year Plans.

20. As a consequence, imports into the EU of e-bikes from China increased from virtually zero at the beginning of the decade to approximately 220,000 pieces in 2014. Initially imports of e-bikes from China were mainly entry level e-city bikes with hub engines. However, once Bafang, the largest Chinese producer of e-bike engine systems, managed to build a reliable centre engine, Chinese producers were able to enter new and growing market segments (for example the e-mtb, which is increasingly equipped with centre engines only).[31] As a result, Chinese producers were better able to participate in the growth (potential) of the EU e-bike market, in particular in the e-mtb segment, and imports of e-bikes from China skyrocketed to over 311,000 pieces in 2015, to over 433,000 pieces in 2016, and to 519,000 pieces in the IP (2016 Q2 to 2017 Q1).

21. The continuous advancement in technology and quality has enabled imports of EPACs from China to take away substantial market share from the EU producers, initially in the lower price segments and then also in the middle price segments. The imports of the product concerned suppressed the EU industry's profitability and capacity utilisation below reasonable levels. In addition, imports from China have suppressed the year-on-year growth rates of production, sales and employment. They have therefore caused material injury to the EU industry (at least since 2016). Imports of EPACs also threaten to cause further material injury to the EU industry, considering that Chinese producers need to find relief for their State-subsidised large structural production overcapacities, and they do that by extending domestic price wars to export markets, of which the EU is the largest market worldwide for EPACs.

22. The Light Electric Vehicle market is expected to reach €29 billion by 2026.[32] With over €1 billion in investments by the EU industry in 2016 alone[33], EPACs are an important part, frontrunners essential to the further development of Intelligent Transport Systems. It is therefore clearly not in the overall EU interest to let an innovative and environmentally-friendly bicycle industry, which is, with over 90,000 direct and indirect jobs[34], one of the largest EU employers in green technology, and contributes significantly to the EU's 2020 climate targets[35] and other priority policies of the Commission, including public health (reduction of obesity, cholesterol, …), and the protection of the environment (energy efficiency, noise pollution, etc.), be pushed out of business by heavily undercutting dumped imports of State-subsidised e-bikes from China, especially with regard to an e-mobility product invented by EU manufacturers.

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28 See also **Annex 5**, Overcapacities of e-bikes in China.

29 See **Annex 6**, 12th 5-Year Plan for the E-Bicycle Industry, pages 6 to 13, and **Annex 7**, 13th 5-Year Plan for the E-Bicycle Industry, pages 6 to 17.

30 See **Annex 4**.

31 See **Annex 2**.

32 See **Annex 1**.

33 See **Annex 8**.

34 See **Annex 8**.

35 See Regulation 502/2013, recital 249.

23. Indeed, not imposing measures would send a devastating message to any company that considers starting production activities in the EU, seriously jeopardise the EU's attractiveness for skilled labour and new inventions, and put at risk the development of the broader €29 billion EU market for lightweight electric vehicles.

24. EBMA therefore requests that the Commission initiate an AD investigation of imports of e-bikes from China with a view to the imposition of AD measures for a five-year period, and register imports from the start of that investigation.

2. The EU industry

25. This Complaint is brought by EBMA on behalf of leading EU e-bike producers which account for more than 50% of EU production of the like product, as evidenced by the standing calculations provided in **Annex 9**. They therefore have standing in accordance with Article 5(4) of the Basic Regulation. **Annex 10** sets forth the names and addresses of all known EU producers, including the companies supporting this Complaint. It is however necessary to keep the identities of the EU producers that support the Complaint confidential as they face a real and present threat of retaliation. The relevant requests are attached as **Annex 11** together with the powers of attorney.

3. The product concerned and the like product

26. The product concerned by this Complaint is cycles, with pedal assistance, with an auxiliary electric motor, currently falling under CN codes 8711 60 10 and ex 8711 60 90.

27. The product concerned covers in particular:

- EPACs, i.e., cycles with an auxiliary electric motor which has a continuous rated power not exceeding 250 watts; and
- Speed EPACs, i.e. cycles of vehicle category L1e-B[36] which have a weight less than or equal to 35 kg and an auxiliary electric motor providing propulsion power which is

[36] Under Article 4(2) of Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013, on the approval and market surveillance of two- or three-wheel vehicles and quadricycles, OJ 2013 L168/52. According to vehicles of category L1e are "light two-wheel powered vehicles", and sub-category L1e-b covers "two-wheel mopeds".

Annex I to Regulation 168/2013 sets out the classification criteria for the various categories of vehicles covered by that regulation. All vehicles of category L1e are defined as having the following characteristics :

- width ≤ 2 000 mm, or ≤ 1 000 mm
- height ≤ 2 500 mm
- two wheels and powered by a propulsion as listed under Article 4(3) of Regulation 168/2013 (the means of propulsion listed there include "electric engines")
- engine capacity ≤ 50 cm3 if a PI internal combustion engine forms part of the vehicle's propulsion configuration
- maximum design vehicle speed ≤ 45 km/h
- maximum continuous rated or net power (1) ≤ 4 000 W (The power limits in Annex I are based on maximum continuous rated power for electric propelled vehicles and maximum net power for vehicles propelled with a combustion engine. The weight of a vehicle is considered equal to its mass in running order." (see note (1) to Annexes I to VIII at the end of Annex VIII).
- maximum mass = technically permissible mass declared by the manufacturer.

Beyond those characteristics, vehicles of category L1e-B are defined as those vehicles of category L1e which do not have all of the following characteristics (which define vehicles of category L1e-A) :

- cycles designed to pedal equipped with an auxiliary propulsion with the primary aim to aid pedalling

added to the driver's pedal power, and the total power does not exceed four times the actual pedal power,

originating in or exported from China.

The common features of the product concerned are that:

– they are cycles designed to pedal (indicated *inter alia* by the fact that in their finished state they are fitted with pedals enabling the vehicle to be propelled solely by the rider's muscular leg power, the fact that the vehicle will not move if the rider does not pedal initially, and the fact that they normally have adjustable rider positioning);

– they feature an auxiliary electric motor which provides additional propulsion power (i.e. additional to the driver's muscular pedal power).

28. Since 1 January 2017, EPACs have been classified under CN code 8711 6010 and speed EPACs under CN code 8711 6090. Before 2017, EPACs were classified under (ex) CN code 8711 9010 and speed EPACs under ex CN code 8711 9090. The product concerned is subject to a 6% EU customs duty upon importation.

29. The lack of a specific regulatory framework for type-approval of speed EPACs before January 2017 made it very difficult if not impossible to sell speed EPACs in many EU Member States, whether those produced by the EU industry or imported. The Complaint therefore focuses on EPACs in analysing EU e-bike imports from China and third countries.

30. Approximately 99% of imports during the period under consideration were made under Code 8711 9010/ 8711 6010. However, despite the small import volume of speed EPACs, it is essential, given that the products share the same essential physical and technical characteristics, and for the effectiveness of the measures, that speed EPACs be covered by the product definition. Both EPACs and speed EPACs have the same engine, and it is simply tuned differently as between the two product types. The exclusion of speed EPACs would give rise to a high risk of circumvention as, otherwise, the product concerned could be imported as speed EPACs and subsequently, without a significant investment, retuned and sold as EPACs. The fact that speed EPACs are subject to type approval would not diminish this risk.

31. While the wording of CN code 8711 9010 was created in 2012 specifically to monitor imports of EPACs[37], a comparison with Chinese export data and the Commission's e-BTI register[38] suggests that Member States have also classified other products under that CN code. To establish the development of import volumes from China, the Complaint therefore relies on

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– output of auxiliary propulsion is cut off at a vehicle speed ≤ 25 km/h

– maximum continuous rated or net power (1) ≤ 1 000 W.

Further, Annex I, Common classification criteria 12 stipulates that a powered three- or four-wheel cycle complying with the three supplemental specific sub-classification criteria above is classified as being technically equivalent to a two-wheel L1e-A vehicle, i.e. belongs to category L1e-A.

[37] "Cycle" generally refers to bicycles or tricycles with pedals, chain and a free wheel drivetrain. "Auxiliary electric motor with a continuous rated power" refers to a motor that assists the pedalling, i.e. is not the main power source. Regulation 168/2013 requires that cycles with an auxiliary electric motor which are to be placed on the EU market without type approval be "cycles with pedal assistance which are equipped with an auxiliary electric motor having a maximum continuous rated power of less than or equal to 250 W, where the output of the motor is cut off when the cyclist stops pedalling and is otherwise progressively reduced and finally cut off before the vehicle speed reaches 25 km/h" (see Article 2(2)(h). The CN code 8711 9010 should therefore have been used only for EPACs.

[38] Before the CN code change in 2017, the Commission's e-BTI register showed eBTIs issued in 2012 which suggest that other electric bikes – for which the electric motor does not have an "auxiliary" role – were also included under CN code 8711 9010 (e.g. electric bikes with throttles). For instance, (former) BTI GB501129990 classified under this code: *Electric scooter with two wheels and an auxiliary electric motor with a power rating not exceeding 250 watts. With a recommended rider age of 13 years and over. Maximum rider weight 70kg.*

export data obtained from Chinese customs to which they made adjustments based on market knowledge and experience as explained further below.

3.1. Product description

32. E-bikes subject to this Complaint have the same basic features as bicycles covered by Regulation 502/2013. In addition, e-bikes have a so-called pedal assist engine. The engine is built either into the hub of the front or the back wheel (hub engine), or into the centre of the bike from which it is connected to the pedal sprocket (centre engine).

33. The engine works in combination with a battery and a computer/control unit. The battery powers the engine, while the computer/control unit regulates the pedal assist level and may provide additional computations, such as speed and range. Unlike moped-like e-bikes which have a throttle and are self-propelling (and are not covered by this Complaint), EPACs are primarily propelled by the rider. The engine of the EPAC only supports the human effort; the pedal assist e-bike is not self-propelling.

3.2. Common / representative types

34. The most common e-bike types are e-city bikes, e-trekking bikes and e-mtb (mountain bikes).[39] All three product types can be equipped with either a hub engine or a central engine.

35. **E-city bikes** usually have a frame shape that allows an upright riding position. They are designed for moving in a primarily (sub-)urban area, e.g. to commute to work or cover (small) distances from home, like shopping for groceries, going to athletic fields or playgrounds, visiting friends, etc. E-city bikes are usually fully equipped with lights, a carrier, mudguards and a stand.

Figure 1 – e-city bike

36. **E-trekking/touring** bikes are used e.g. for excursions over a flat to slightly hilly landscape. They also have certain uses in common with e-city bikes on the one hand, and e-mtbs on the other. The difference from e-city bikes is that the sitting position is not straight but forward leaning, i.e. more aero-dynamic. They therefore do not provide as comfortable a city-riding experience as e-city bikes, but on the other hand are more suitable for sport riding. Compared to e-mtbs, e-trekking bikes are less impact-resistant. They are designed for sportive leisure activity rather than intensive sport. Like e-city bikes, they are also fully equipped with lights, a carrier, mudguards, and a stand.

[39] Other less common e-bike types include, e.g. e-folding bikes and e-road bikes and other cycles such as e-rickshaws, e-tricycles, etc.

Figure 2 – e-trekking bike

37. **E-mtb's** are for sporting activities in the mountains. The advantage they have as compared to standard mountain bikes is in particular the longer range: the pedal assist feature allows the rider to climb steeper inclines and enjoy a longer duration of the biking experience. They are usually not equipped with lights, a carrier, mudguards or a stand. That said, e-mtbs can equally be used for leisure bike excursions or to move about in the city. For instance, bike messengers often use (e-)mtbs to get around quickly in urban areas.

Figure 3 – e-mtb bike

38. Despite the specific features described above, all e-bike types have the same basic physical and technical characteristics. They all consist of the same basic parts, including a frame, two wheels, a saddle, a handle, two brakes, gears, a chain, and a pedal assist engine, a battery and a computer/control unit. Based on the product's physical and technical characteristics, they therefore constitute one single product for the purpose of this Complaint.

3.3. Production process and materials development

a. Introduction

39. The basic production process of e-bikes is identical among the different e-bike types and as compared to standard bicycles. It consists worldwide of rather standard parts assembly processes.

40. The EU industry operates state-of-the-art production equipment, including ecological painting, the automatic assembly of wheels and bicycles, and best factory conditions (with no toxic materials).[40]

41. In addition to the features of a standard bicycle, e-bikes have an engine (either hub or centre), a battery and a computer/control unit. These components are the heart of the e-bike and provide the additional know-how and added value, as well as its unique performance characteristics.

b. E-bike parts in common with standard bicycles

42. The raw materials used in bicycle production have evolved considerably and reflect the considerable investments made to innovate and find new materials, in order to constantly improve the durability, weight, flexibility and comfort of bicycles. E-bikes are the latest stage in this development.

43. For more than a century, steel was the material of choice for bicycle manufacturing because of its durability, flexibility, and malleability. Historically, there were primarily two kinds of steel used: Cro-Moly (also known as "Chro-Mo") and High Tensile (or "Hi-Ten"). Hi-Ten is a cheaper but serviceable variety of steel, used for inexpensive bicycles. Cro-Moly is a strengthened steel alloy which includes small amounts of chromium and molybdenum, allowing the tube walls to be thinner, which in turn means a lighter bicycle. It was the preferred steel for high-quality bicycle frames, but has been progressively replaced by aluminium, carbon and titanium.

44. E-bikes have further accelerated the general move of bicycle production towards light-weight materials, as reduced weight is essential to the lifetime of the battery and the range of the bike (i.e. the distance that can be covered before the battery must be recharged).

45. Bicycles and their components have been going through an unprecedented technological development phase over the last 30 years, especially as a result of the great innovations developed and adopted by the EU bicycle industry. The most important developments adopted by the aircraft and aerospace industries in recent decades found their first and most successful, large volume application in the bicycle industry. Indeed, the list of new materials and new technologies applied first and foremost in the bicycle sector is impressive:

- special lighter aluminium alloys for extrusions and forging,
- nanotechnologies applied to make lighter alloys,
- carbon fibre composites,
- non-toxic, lead-free and ecological paints, nipples and other materials,
- magnesium,
- titanium,
- special carbon steels,
- special stainless steels,
- high-resistance polymers, and now
- pedal assist engines and

[40] See e.g. **Annex 1**.

– lithium battery-powered transport.

46. The bicycle sector directly serves the environmentally-inspired push in the automotive and aircraft industries for lighter components, as bicycle manufacturing is the only industry which has already produced large volumes of carbon and other new material components. The sector is also leading in e-mobility, with e-bikes being the first vehicles of which the power is supplied by a lithium battery. In each of these ways, the bicycle sector is playing an important role in helping the EU to meet its 2020 climate change goals.

c. Specific e-bike technology

47. The EU e-bike industry and its suppliers (e.g. Bosch) have developed the pedal assist engine essentially single-handedly from nothing and without any governmental support. Bosch started marketing its first centre engine system in 2010, and that system has become "the leading motor system in Europe."[41]

48. Through its investment of hundreds of millions of euros[42], Bosch started the e-mobility revolution and developed know-how that the EU car industry is also profiting from in the development of e-cars.

49. The latest generation of e-bikes, the EPACs, form a seamless hybrid between the rider and the motor, by measuring the pedalling force, speed and rhythm and adjusting the motor assistance accordingly.

50. The three key distinctive parts of an e-bike are the engine (also referred to as "drive unit"), the computer/control unit and the battery.

51. E-bikes have compact electric engines built into the hub of the back or front wheel (hub engine), or mounted in the centre of the bike and connected to the pedal sprocket (centre engine). The engine is equipped with up to three different sensors, i.e. torque, speed and cadence sensors. The torque sensor measures the pedal pressure, the speed sensor the speed, and the cadence sensor the riding rhythm over a thousand times per second. They send this information to the computer which calculates the riding profile and adjusts engine support accordingly. This allows a smooth, non-stagnant riding experience. Simpler versions might have only a torque sensor and a crank system (rather than a motor with three sensors) and a basic control unit (rather than a more sophisticated computer).

Figure 4 – centre engine

41 See **Annex 2**.

42 See **Annex 1**.

52. The computer/control unit is affixed on the handle bar. Its prime function is to control the engine, create a riding profile based on the information collected by the sensors and to adjust the engine support accordingly to provide the right level of pedal assist. In addition, it may provide information to the rider on speed, distance, and battery levels. More advanced computers also have GPS and fitness-measuring functions, and can be linked to apps on mobile phones, tablets and computers.

Figure 5 – computers

53. E-bike batteries are usually lithium-ion batteries and come in different power levels. As shown in Figure 1 to Figure 3, they are usually affixed either on the frame or under the carrier.

Figure 6 – on frame battery

54. In sum, all representative e-bike types have the same physical and technical characteristics, and the same basic production and assembling processes, and are made up of the same essential parts and components. Based on these objective elements, they therefore constitute one single product for the purpose of this Complaint.

3.4. Distribution channels and end uses

55. All representative e-bikes types are sold on the Union market through similar distribution channels, such as specialised retailers, i.e. independent bicycle dealers ("IBDs"), sport chains, mass merchandisers and online sellers. Their basic application and use are identical, i.e. to transport riders between two points. Different types of e-bikes are therefore largely interchangeable and models from different categories compete with each other. They should therefore also be considered to constitute a single like product based on their distribution channels and uses.

3.5. Like product

56. The Commission has already established in previous investigations that standard bicycles produced in the EU are like products with bicycles imported from China.[43]

57. Concerning the parts specific to e-bikes, i.e. the engine, computer/control unit and battery, China's largest producers of these components, e.g. Bafang and BAK, have essentially been able to catch up with Bosch's inventive system design thanks to substantial government subsidies.[44] After an initial focus on hub engines, Bafang has developed and improved its centre engine system, especially in the last 1-3 years. In late 2014, Bafang first sold successfully its centre engine "8fun" (see Figure 7, left). In 2015, it came out with the even more successful "Max Drive" centre engine (see Figure 7, right). Recently, Bafang presented two new versions of the Max Drive engine, the top-end engine Ultra Drive which also targets speed e-bikes, and the pricy Modest Drive engine, which targets mid- and entry level EPACs. Tests conducted by market researchers but also by users and posted on youtube.com suggest that Bafangs's Max Drive engine is as good as Bosch's centre engines. According to Bafang itself, *"the race is on to crate the most powerful, the most compact and the most versatile high-end drive trains, battery and software solutions"*.[45]

58. This has allowed Chinese e-bike producers to target increasingly the (higher-priced) EU e-trekking and e-mtb segments. Accordingly, during the period under consideration, but especially in 2016 and the IP, e-bikes from China (covered by this Complaint) have been equipped with an e-system fully comparable to that of EU e-bikes in all of the representative e-bike categories.

Figure 7 – Bafang's systems (8fun and Max Drive)

59. Therefore, EU-produced e-bikes are like products to the Chinese product concerned, and there are no differences in the quality (of the same product types) that would make it necessary to make price adjustments to EU, Chinese or Swiss (the proposed analogue country's) prices. Indeed, products produced in Switzerland should be considered like products with both Chinese and EU-produced e-bikes (see section 6 below).

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43 See Council Regulation 502/2013, recital 59.

44 See **Annex 4**.

45 See **Annex 2** and https://www.youtube.com/watch?v=WsWXgZVNHkQ; https://www.youtube.com/watch?v=T9X8P89QVXo; https://www.youtube.com/watch?v=Nrp5jjLBgfA; https://www.youtube.com/watch?v=_deZ8tIBkTM; https://www.youtube.com/watch?v=2DKmZDUMFmc.

4. Exporting producers, importers and distributors

60. This Complaint concerns imports of the product concerned from China, whether imported by Chinese exporting producers directly or via related or unrelated intermediate parties in the EU or third countries.

61. There are several hundreds, if not thousands, of Chinese producers of EPACs. **Annex 12** provides a list of the known producers which account for a majority of exports to the EU, as well as the contact details of the China Bicycle Association ("CBA"). A list of known EU importers is attached in **Annex 13**. Users of electric bicycles are the consumers that purchase e-bikes via IBDs, sport shops, hypermarkets and online sellers.

5. Periods examined in this Complaint

62. As stated in section 1 above, the IP used in this Complaint to assess dumping, undercutting and underselling is the period from 2016 Q2 to 2017 Q1. The period under consideration to assess the injury of the EU industry is from calendar year 2014 to 2016 and the IP.

6. Dumping

63. As China is not a market economy, dumping margins are calculated based on information obtained in a market economy third country.

64. The Complainant considers Switzerland an appropriate third country. According to Velosuisse, the Swiss bicycle association, e-bike sales have increased from 57,613 pieces in 2014 to 66,332 in 2015 and 75,665 in 2016, accounting for approximately 23% of all bicycle sales on the Swiss market (324,581 pieces) in 2016.[46] The Swiss market therefore represents a volume which is more than 5% of Chinese e-bike exports to the EU.

65. The e-bikes sold on the Swiss market are both those produced in Switzerland and those imported from third countries. There are 38 different brands of e-bikes offered on the Swiss market.[47] Biketec AG (Flyer), Job Factory Basel AG (Veo bikes), Komenda (Cresta), my Stromer AG, Stöckli, Tour de Suisse Rad AG, and Youmo AG appear to have production in Switzerland.[48] Other members of Velosuisse import EPACs, mainly from the EU. Domestic EPAC production in 2016 was approximately 70-75,000 pieces.[49] EPAC exports from Switzerland in 2016 were approximately 33,000 pieces[50] and imports were at similar levels.[51]

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[46] See **Annex 14**, information on the Swiss e-bike market.

[47] See **Annex 16**, Brands of e-bicycles offered in Switzerland.

[48] **Annex 15** provides a list of Velosuisse members and list of known Swiss e-bike producers.

[49] There is no public data available on e-bike production in Switzerland. The Complainant's best estimate is that Flyer produces approximately *Limited, Stromer approximately *Limited, Cresta approximately *Limited and Tour de Suisse approximately *Limited. Veo, Stöckli and Youmo account for approximately *Limited (see **Annex 14)**.

[50] See Swiss export stats, attached as **Annex 14**. EPACs are reported under the Swiss customs code 8711 9000 which also includes motor bikes and mopeds. To the best of the Complainant's knowledge, there is however no moped or motor bike production in Switzerland (see Wikipedia article, also attached as **Annex 14**). Therefore, it is reasonable to conclude that all exports under code 8711 9000 are EPACs.

[51] As the Swiss customs code 8711 9000 is an ex code and also includes imports of mopeds and motor bikes, the Complainant calculated EPAC imports into Switzerland based on consumption, production and exports. The result of approximately 33,000 pieces was compared with Eurostat export stats and the Swiss import stats. According to Eurostat, producers from mainly Germany, Austria, the Netherlands, France and Italy exported approximately 30,000 EPACs to Switzerland in 2016. Based on statements such as the one from Aima (see para 9), it is reasonable to conclude that the remainder comes mainly from China.

The Swiss market is therefore characterised by competitive producers and a high level of domestic competition.

66. Swiss producers have the same or similar production methodologies and equipment as Chinese producers (and the EU producers). As stated above, and recognised by the Commission in previous AD investigations of imports of standard bicycles, the basic production and assembly methodologies are essentially the same worldwide.[52] Swiss producers, Chinese producers and EU producers also each use the EPAC technology discussed above. In sum, the physical characteristics and applications of the product concerned, the like products and e-bikes produced in Switzerland, are identical. It is therefore reasonable to consider Switzerland an appropriate analogue country.

67. The Complainant has also considered other potential analogue countries, in particular Japan and Taiwan. However, to the Complainant's best knowledge, Taiwan does not (yet) have a substantial domestic market for EPACs, and the EPACs produced there are mostly for export. Taiwan is therefore not considered to be an appropriate analogue country.[53]

68. In 2016, Japan had domestic production of electric bicycles of approximately 550,000 units according to data from the Japanese Bicycles Association. The Complainant understands that most of the production is e-city bikes for domestic sale. One of the main producers is Yamaha and to the Complainant's best knowledge, Bridgestone, Honda and Suzuki also produce electric bikes in Japan.

69. However, Japanese e-bikes are not fully comparable with the product concerned and the like product because of different technical features resulting from the government's technical product requirements. As a result, the engine technology used in Japan is somewhat different from the EPAC technology used in the EU, China and Switzerland. Also, Japan has representative production of only one product type, e-city bikes, and not e-trekking and e-mtbs. Thus, it is not possible to make a proper product comparison with the full range of EPACs exported to the EU from China. It was therefore decided to use Switzerland (and not Japan) as analogue country in this Complaint. However, a basic price comparison shows that the choice of Switzerland over Japan as analogue country does not unfairly prejudice Chinese exporting producers; indeed, using normal value information from either country, the dumping margins are comparable and significant.[54]

70. The Complainant based the NV on e-bike prices published in catalogues/websites of three of the leading Swiss producers. From the published list prices, the Complainant selected the cheapest versions of the models falling within the specified representative e-bike types and deducted 8% VAT and 35% retailer mark-up to arrive at a Swiss producers' ex-works price. The data from the Swiss producers is attached as **Annex 18**.[55]

71. The Chinese export prices of e-bikes are established based on quotations and other price offers with relevant specifications for the IP, which EBMA obtained via market intelligence (**Annex 20**). Where necessary, the prices are adjusted to CIF and EXW levels, respectively, by deducting, as required, value added tax ("VAT"), re-seller/importer mark-ups, (inland/ocean) freight and customs handling charges.[56]

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52 Regulation 502/2013, recital 59.

53 See **Annex 17**.

54 See **Annex 17**. For example, Japanese price offers found for Yamaha e-city bikes show that consumer prices are at levels similar to those in the EU and Switzerland.

55 **Annex 18** also contains an explanation of the VAT and trader mark-up deductions.

56 See **Annex 21**, Freight costs.

72. The dumping calculations are made for the IP and on a quarterly basis by comparing the Swiss NVs with Chinese export prices to the EU for the representative product types and for hub and centre engines. The calculations clearly demonstrate that Chinese producers are heavily dumping e-bikes in the EU, with triple-digit dumping margins. The details of the dumping calculations are set out in **Annex 22**.[57]

7. Injury

73. As discussed in section 1 above, Chinese bicycle and e-bike producers have enormous structural production overcapacities fed by government subsidies that are bound to increase further, considering the domestic Chinese market situation, in particular the stagnating domestic demand for standard bicycles, caused by an enormous bike-sharing bubble (which is also heading for the EU), and the ban of Chinese-style throttle-propelled e-bikes in many Chinese cities.

74. Chinese producers have therefore switched to the production of EU-style EPACs to find relief for their production overcapacities on export markets, in particular the EU. In so doing, the State-subsidised Chinese producers carry their price wars to foreign markets and destroy the local industries with heavily dumped and undercutting prices.

75. During the investigated period, the EU EPAC market was growing strongly, thanks in particular to the innovation of e-mountain bikes. The EU industry was therefore still able to increase its overall production and sales performance in absolute terms.

76. However, the imports of the product concerned from China have taken substantial market share from the EU producers as their electrical systems advanced in quality, and have suppressed the EU industry's profitability and capacity utilisation well below reasonable levels. In addition, imports from China have prevented year-on-year growth of production, sales and employment. Overall, imports of EPACs from China have therefore caused material injury to the EU industry, and also threaten to cause further material injury to the EU industry.

77. This situation is not sustainable especially considering the clear aim of the Chinese government to "dramatically increase" exports of middle and high-end EPACs between now and 2025, and recent developments which show that Chinese exports are indeed dramatically increasing. The imposition of AD measures is therefore urgently required to restore a level playing field. Without AD measures, the situation will clearly worsen as Chinese e-bike producers will flood the EU market in an effort to relieve the pressure of their 20+ million units of structural production overcapacities. EU-based SMEs will only be able to watch helplessly as the State-subsidised Chinese producers carry their price wars further into each market segment until the entire EU industry is destroyed.

78. The EU solar panel industry is a sad example of the destructive consequences of State-subsidised Chinese producers carrying their price wars to third countries in their effort to offload rapidly major production overcapacities, with over 100 EU producers having been pushed out of a market in which they were technology leaders, and even the largest EU producer, SolarWorld AG, having to file for bankruptcy in 2017 due to falling prices and orders lost to predatory dumping by Chinese producers.

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[57] **Annex 22** sets out calculations based on the analogue country methodology which is provided for in the Basic Regulation. While it is not legally required, the Complaint also established dumping based on costs of production in China. In this regard, the Complainant obtained export price quotes with detailed cost breakdowns. These quotes show the cost of materials and show that export prices do not take into account reasonable costs for direct overheads, labour, and SG&A, and a reasonable level of profit. Accordingly, the Complaint has constructed a normal value by adding 14% direct overheads, 4% labour, 1% SG&A and 10% profit to the detailed materials costs, and compared that value with the quoted export price. The calculations are attached as **Annex 22** and also show significant dumping.

79. Imports of e-bikes from China have already caused material injury, and the threat of increased injury is present and real. The swift increase in dumped imports, and the depressed profits and market share losses of EU producers, are alarming and require urgent action on the part of the Commission.

7.1. EU consumption

80. Table 1 shows the evolution of EU consumption between 2014 and the IP. The EU consumption is based on information collected by CONEBI from national bicycle associations.[58]

Table 1 – Consumption

Volume (000 pieces)	2014	2015	2016	IP
Consumption	1,139	1,364	1,666	1,762

Source: **Annex 24**

81. EU consumption of e-bikes increased by 55% over the period under consideration. This trend was inspired by the overall green movement in the EU, in particular, by increased environmental and health awareness.

82. However, despite these external factors, EU consumers would not have become interested in e-bikes if it were not for the tremendous investments by the EU industry and its suppliers in the development and design of the new generation of pedal assist e-bikes which offer a significantly enhanced riding experience as compared to previous e-bike technologies (e.g. e-bikes with throttles).

83. The continued growth of the EU e-bike market is therefore dependent on continued investment by the EU industry in this new high-tech segment. While e-bikes from China and other third countries can compete at the current level of development, the EU industry is the key driver of innovation that is essential for the further growth of the Intelligent Transport Systems segment.

84. In other words, if imports of undercutting and dumped e-bikes from China force the EU e-bike industry out of the market created by the latter, the loss of billions of euros of EU investments in ongoing product improvements would in the medium- and long-term reduce the attractiveness of e-bikes to EU consumers and slow down the EU's Intelligent Transport Systems initiative. Chinese producers are replicating the *status quo* of the EU-developed e-bike technology, but they have not been able to drive further innovation and development. However, innovation and development are essential to the growth of this still young industry sector, and therefore so is the survival of the EU industry. However, this is highly uncertain if a level playing field is not restored on the EU market by the imposition of AD duties against imports of dumped e-bikes from China.

7.2. Imports and market share

85. Imports from China are based on Chinese export statistics obtained from Chinese customs.[59] Imports from other third countries are based on Eurostat import statistics for CN codes 8711

[58] See **Annex 23**, email from CONEBI explaining the calculation of EU consumption.

[59] For the calendar years 2014-2016, the export volumes are based on adjusted export data of the Chinese tariff code 8711 9010 10. After the change in tariff codes in 2017, the export volumes are based on the new Chinese tariff code 8711 6000 10. For January and February 2017, the old tariff code 8711 9010 10 was also investigated and EPACs still exported under the old code were added. The full export stats, customs code extracts and explanations on how the export data was adjusted from the raw data are attached as **Annex 25**.

6010 and 8711 9010.[60] The total of EU sales of e-bikes produced by EU producers is calculated as the difference between total EU consumption and total EU imports.

86. Thanks to growing demand, both sales by the EU industry and imports increased in absolute terms throughout the investigated period.

Table 2 – EU sales

Volume (000 pieces)	2014	2015	2016	IP
Total sales of EU production	843	916	1,032	1,025
EU sales of companies supporting the Complaint	359	423	504	521
EU sales other EU producers	484	493	528	504
Imports from China	219	312	434	519
Imports from other countries[61]	77	136	201	218
Consumption	1,139	1,364	1,666	1,762

Source: **Annex 24**

87. However, in relative terms, EPAC imports from China increased their EU market share substantially, by 9% between 2014 and the IP, while the companies supporting the Complaint and the EU industry lost market share. Imports from third countries increased their market share by approximately 5%. This is discussed in Section 8.2.a in further detail.

60 See section 8.2.a for a detailed explanation regarding imports from third countries.

61 The data reported are only exports from third countries with known e-bike production, namely Japan, Taiwan, Vietnam and Switzerland. According to Eurostat, imports in the IP under CN code 8711 9010 (up to 2016) and CN code 8711 60 10 (as of 2017) also came from other third countries as follows: Australia (419 units in the IP, including zero in 2017 Q1), Bangladesh (41 units in the IP, including zero in 2017 Q1), Bosnia (1 unit in 2017 Q1), Cambodia (2 units in the IP, including 1 in 2017 Q1), Canada (684 units in IP, including 8 in 2017 Q1), Colombia (1 unit in the IP, including zero in 2017 Q1), Unspecified Countries (16 units in the IP, including zero in 2017 Q1), Egypt (1 unit in the IP, including zero in 2017 Q1), Faroe Islands (1 unit in the IP, including zero in 2017 Q1), Hong Kong (23,843 units in the IP, including 1,397 in 2017 Q1 – Hong Kong is discussed further in Section 8.2.a), India (138 units in the IP, including zero in 2017 Q1), Indonesia (590 units in the IP, including 18 in 2017 Q1), Israel (5 units in the IP, including zero in 2017 Q1), South Korea (64 units in the IP, including 2 in 2017 Q1), Lebanon (1 unit in the IP, including zero in 2017 Q1), Malaysia (3 units in the IP, including 1 unit in 2017 Q1), Micronesia (88 units in 2017 Q1), Norway (230 units in the IP, including 4 in 2017 Q1), Pakistan (4 units in the IP, including zero in 2017 Q1), Saudi Arabia (124 units in 2017 Q1), Singapore (10 units in the IP, including 2 in 2017 Q1), Thailand (669 units in the IP, including 643 in 2017 Q1), Turkey (12 units in the IP, including 1 in 2017 Q1), UAE (8,985 units in the IP, including 20 in 2017 Q1), US (4122 units in the IP, including 176 in 2017 Q1), Venezuela (8 units in the IP, including zero in 2017 Q1).

To the Complainant's best knowledge there is no e-bike production in any of these third countries. Furthermore, considering that in 2017 the CN code for e-bikes changed from ex CN code 8711 9010 to the entire CN code 8711 60 10, it is reasonable to conclude that volumes in 2017 Q1 represent only e-bike imports, while Eurostat data for the previous periods could also contain imports of other products. Where import volumes show a strong drop or no volumes in 2017 Q1, it is therefore reasonable to conclude that the majority of imports in the previous periods were not the product concerned. Imports from countries showing volumes which were not zero in 2017 Q1, were in any event insignificant.

In sum, considering that there is no known e-bike production in the above-listed countries and the negligible overall volumes, it is reasonable to exclude imports from these countries for the purpose of establishing the EU market trends. Even if those imports were the product concerned, they would not have any substantial impact on the overall market developments, and could in no way be another cause of injury or break the causal link between the EU industry's injury and dumped imports from China.

Table 3 – EU market shares

MS in (%)	2014	2015	2016	IP
Total sales of EU production	74.0	67.2	61.9	58.1
EU sales of companies supporting the Complaint	31.5	31.0	30.3	29.5
EU sales of other EU producers	42.5	36.2	31.7	28.6
Imports from China	19.2	22.9	26.0	29.5
Imports from other countries	6.8	10.0	12.0	12.4

Source: **Annex 24**

88. The above tables show a clear and major increase in imports from China between 2014 and the IP.

89. While import volumes from China have increased sharply, prices between 2014 and the IP have increased by a relatively small percentage. Both of these developments are significant as a sign of injury to EU producers considering that the product range of e-bikes imported from China shifted significantly from mainly entry level e-city bikes in 2014 to middle (and high-end) e-city, e-trekking and e-mtbs in the IP.

Table 4 – Imports from China

	2014	2015	2016	IP
Value (€)	98,138,725	153,324,691	230,556,523	264,997,508
Volume (pieces)	219,133	311,718	433,642	519,106
FOB Price (€/piece)	448	492	532	510

Source: **Annex 24**

90. The injurious import trends (in terms of both prices and volumes) have accelerated explosively in the last seven months, as can be seen in Table 5 below.

Table 5 – Month-on-month development of EU imports from China

Exports to EU	2017/1	2017/2	2017/3	2017/4	2017/5	2017/6	2017/7	Sum
Volume (pieces)	84,470	43,207	68,727	69,769	70,737	76,748	77,334	490,992
Price (USD/piece)	435	595	564	542	517	537	543	527

Exports to EU	2016/1	2016/2	2016/3	2016/4	2016/5	2016/6	2016/7	Sum
Volume (pieces)	43,904	35,534	31,502	46,045	36,758	40,989	32,274	267,006
Price (USD/piece)	612	549	619	596	589	545	588	585

Source: **Annex 25**

91. Chinese exports through July 2017 clearly show significantly higher monthly volumes than those of the same period of 2016. In fact, total Chinese exports to the EU during the first seven months of 2017 have already exceeded total 2016 exports. Imports of EPACs from China have likely further increased in August 2017 considering the very warm temperatures experienced this summer in Europe.

92. It is reasonable to conclude (when extrapolating the import volumes for the first seven months) that dumped imports of EPACs from China will easily exceed 800,000 pieces in 2017, and that Chinese producers will accordingly further increase their EU market share at the expense of EU producers.

7.3. Material injury and threat of material injury

a. Performance indicators

93. As discussed above, and as is clearly visible from the table below, the heavily dumped and undercutting imports from China have already caused material injury to EU producers. It is only because of the substantial and continuous growth in EU demand during the period under investigation that the injurious impact of the dumped imports has not been greater.

Table 6 – Performance of the EU industry

Supporting producers	**2014**	**2015**	**2016**	**IP**
Production (000 pieces)	365	472	491	528
Capacity (000 pieces)	509	603	767	784
Utilization rate (%)	72%	78%	64%	67%
EU sales (000 pieces)	359	423	504	521
EU sales prices (€/piece)	1,287	1,304	1,387	1,400
Export sales (000 pieces)	9	15	21	22
Export sales (€/piece)	1,557	1,482	1,606	1,576
Cost of production (€/piece)	1,245	1,258	1,349	1,363
Profitability (%)	3.4%	3.7%	2.2%	2.1%
Employment	1,037	1,226	1,450	1,554
Stocks (000 pieces)	73	107	71	93
Investments (€ million)	6.9	11.0	7.0	7.8
Macro data[62]	**2014**	**2015**	**2016**	**16Q2-17Q1**
Capacity (000 pieces)	1,196	1,306	1,570	1,544
Production (000 pieces)	856	1,023	1,004	1,038
Capacity utilisation (%)	72%	78%	64%	67%
Sales (000 pieces)	843	916	1,032	1,025
Employment (pax)[63]	2,436	2,654	2,967	3,058

Source: **Annex 26**.

94. Between 2014 and the IP, the companies supporting the Complaint lost market share to imports from China as production and sales increased at a slower rate than both EU consumption and imports from China. The EU imports of the product concerned from China increased by 42% between 2014 and 2015, as compared to a 30% production growth and an 18% sales growth of the companies supporting the Complaint. Between 2015 and 2016, EU production of the companies supporting the Complaint increased only by 4% and sales by 19%, while Chinese imports continued to increase by 39%. Between 2016 and the IP, the production of the companies supporting the Complaint increased by 8% and EU sales increased by 3%, while imports from China increased by another 20%.

95. The macro data shows similar (alarming) trends and the performance of non-complaining EU producers was even worse, as they lost sales between 2016 and the IP. The largest German bicycle and e-bike producer, Mitteldeutsche Fahrradwerke (Mifa), went into insolvency proceedings in January 2017, due to the increasing pressure from dumped e-bike imports from China.[64] Shortly before going insolvent, Mifa had just finished building a €20 million production site in Germany. Apparently, Mifa lost a supply contract for e-bikes with Aldi to imports from China. In addition to the €20 million investment, around 500 current jobs are at

62 See **Annex 23**, email from CONEBI.

63 The total employment of the EU e-bike industry is calculated by multiplying total production by the production-employment ratio of the companies supporting the Complaint.

64 See **Annex 27**.

risk. Furthermore, considering that every 1,000 increase of e-bike production creates between 3 and 5 new jobs (direct and indirect), several hundred new EU jobs have been lost just as a result of the Mifa situation.

96. Due to fierce undercutting by dumped imports of e-bikes from China, the EU industry lost market share during the period under consideration and could not utilise the high year-on-year investments in capacities. To the contrary, capacity utilisation fell under 70%, which suppressed profits well below the reasonable profit levels of 10-12%. Even worse, profits also declined in absolute terms. This also led the employment growth rate to slow down significantly in line with the slowing production and sales. The EU e-bike industry could provide work to many more people across the EU, if it were not for the large volumes of heavily undercutting and dumped e-bike imports from China.

b. Undercutting and underselling

97. For the detailed undercutting and underselling calculations, the Complaint compares the (target) price of the EU industry with Chinese export prices.

98. EU e-bike sales prices are based on sample invoices of the companies supporting the Complaint for the representative product types (e-city bike, e-trekking bike and e-mtb) to unrelated EU customers (**Annex 28**). The target price is based on the average production costs plus a 10% profit, which is the conservatively established lower range of the 10-12% profitability reasonably required in this R&D and investment-intensive Intelligent Transport Systems sector to operate sustainably on the market long-term.[65] That this level of profitability can be obtained in the absence of dumped imports can be seen in the profitability of e-mtbs before 2015, which was when the Bafang battery brought the quality of Chinese e-mtbs to the same level as those made in the EU.

99. This estimate of reasonable profitability is very conservative considering that to continue the R&D of EPACs and further enhance the quality of the product, in order to convince more EU citizens of its environmental and health advantages (e.g. reduced air and noise pollution in urban areas and improved public health), and to help the Commission to achieve its Intelligent Transport Systems initiative and 2020 climate goals, further substantial investments are needed in the coming years. Without a basic return on investment amounting to 10-12% earnings before tax (EBT), these necessary future investments will not be possible.[66] Also, considering that the Commission and Council found the reasonable pre-tax profit margin on standard bikes already to be 8%[67], 10-12% is conservative.

100. The Chinese export prices for the representative e-bike types are established based on quotations and other price offers with relevant specifications for the IP, which the Complainant obtained via market intelligence.[68]

101. The undercutting and underselling calculations are made by comparing the EU industry's ex-works ("EXW") domestic average sales price, the sales prices per representative product type and the target prices, respectively, with the Chinese export prices.[69] The detailed calculations are attached as **Annex 29** and show undercutting and underselling at high double- and triple-digit levels.

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65 See **Annex 30**.

66 See **Annex 30**.

67 Regulation 502/2013, recital 270.

68 See **Annex 20**.

69 Where necessary, VAT was deducted. To establish the landed export price, ocean freight, and EU customs handling charges and the EU customs duties of 6% were added to the Chinese price quotations, which were made mostly on FOB (and CIF) terms. For freight costs, see **Annex 21**.

c. Material injury

102. In addition to the heavy undercutting during the IP, a basic comparison of the price information in Table 4 and Table 6 shows that imports of e-bikes from China have heavily undercut the EU industry's prices throughout the period under consideration.

103. The only reason why the overall injury picture of the EU industry did not deteriorate faster is that up until 2016, the EU industry had a (fast shrinking) know-how and technical advantage.

104. Pedal assist e-bikes are a new technology, first invented by the EU industry and its suppliers from scratch approximately 15-20 years ago, essentially without any governmental or other support. Up until now, the R&D of pedal assist e-bikes has already cost several hundred millions of euros, and the technology is still at a relatively young stage.[70] In fact, only during the period under consideration, the companies supporting the Complaint invested approximately €30 million in their e-bike businesses. Considering the large number of non-complainant EU producers, the overall number is easily twice that level. In addition to the EU e-bike industry's own investments, millions of euros have also been invested by parts suppliers like Bosch, e.g. to produce the engine, battery and computer that are at the heart of the e-bike. Taking into account the overall bicycle and related industries, the investments amount to over one billion euros.[71] These EU investments (and any future investments) would be lost without the imposition of anti-dumping duties to re-establish a level playing field on the EU market.

105. The Chinese government and the Chinese bicycle industry realised the potential of EPACs in approximately 2011-2012. The Government of China started to heavily subsidise e-bike and component producers such as Bafang, to catch up with the EU technology (see also Section 3.5). In addition, Chinese producers improved the designs of their e-bikes dramatically, bringing them to EU standards.

Figure 8 – design evolution of Chinese EPACs (e-city bikes between 2013 and 2017)

Source: Stella bikes (Chinese producer)

106. Imports in 2013-2014 were still mainly entry-level and mid-level hub engine e-city bikes. They already heavily undercut and injured EU e-bike producers through the price pressure, but could not yet compete fully with EU-made e-trekking and especially e-mtbs.

107. During the following years, heavy State subsidisation allowed Bafang and other Chinese engine makers to catch up step-by-step with EU technology. Along the way, Chinese EPAC manufacturers expanded into first the low-end, then the middle and finally the high-end segments of the EU EPAC market. With each advance, the EU industry's injury worsened and the market segments without unfair competition shrunk. In 2016, within less than 5 years,

[70] **Annex 1**.

[71] **Annex 1**.

Bafang's Max Drive engine finally allowed Chinese e-bike producers to penetrate fully the highly sought-after EU e-mtb segment with their dumped and undercutting products. The tremendous increase in imports in the first seven months of 2017 clearly reflects this catching-up in technology.

108. In a technology the EU industry invented and a market it created and that continues to expand, the material injury by dumped and subsidised undercutting imports of EPACs from China is clearly reflected in the loss of market share, the slowing production and sales, the low and decreasing capacity utilisation, suppressed and decreasing profits, decreasing returns on investment and insolvencies like that of Mifa, as discussed above.

109. This material injury is not temporary and will only worsen, if the EU does not impose AD duties that re-establish a level playing field, as the EU is the main export market for Chinese e-bike producers to seek relief for their major production overcapacities.

d. Threat of injury

110. In addition to the actual material injury, there is a clear and present threat of immediate (further) material injury in the meaning of Article 3(9) of the Basic Regulation.

111. First, as described above, Chinese producers have increasingly covered all e-bike market segments, and have thereby been able to take greater and greater advantage of the growth (potential) of the EU e-bike market. Chinese imports skyrocketed with period-on-period increases of 42%, 39% and 20% between 2014 and the IP. Through heavy triple-digit undercutting and dumping, the imports were also able to quickly increase their market share from 19% in 2014 to 29% in the IP.

112. Once Chinese producers had reached a technology level in 2016 which allowed them to supply all market segments, including the e-mtb segment, imports of EPACs from China exploded in the first seven months of 2017, exceeding the entire 2016 import volume. At the same time, price levels dropped further.

113. While exact figures are difficult to obtain, e-bike production capacity in China in 2016 was estimated at 40-50 million units, and the overcapacity (i.e. the excess over Chinese domestic demand) at 20-25 million.[72] In addition, total (standard) bicycle production in China in 2016 was 80 million pieces, of which over 70% were exported.[73] Indeed, the figures also match CONEBI's estimates, collected via various market sources, who estimate Chinese 2016 e-bike capacities at 51 million and domestic Chinese consumption at 28 million bikes.[74]

114. While Chinese e-bike production is still predominantly Chinese-style e-bikes, it is important to note that the domestic demand for these self-propelling throttle bicycles is decreasing drastically. First, the growing Chinese middle class increasingly choses cars over the traditional Chinese electric bicycles. Furthermore, in recent years, the city administrations of Beijing, Guangzhou, Shanghai, Shenzhen and other cities have prohibited the use of Chinese-style e-bikes in large parts of those cities[75], because they pose a high safety hazard as they are too light and fragile, and riders have a notorious disrespect for traffic rules.[76]

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72 See **Annex 4**, Overcapacities of e-bikes in China.

73 See **Annex 4**, 27th China International Bicycle Fair Kicked off in Shanghai. See also **Annex 5**, Overcapacities of e-bikes in China.

74 See **Annex 4** and **Annex 5**.

75 See **Annex 4**, China Bans E-Bike Use in Major Cities.

76 See **Annex 4**, China Bans E-Bike Use in Major Cities.

Figure 9 – "traditional" Chinese-style e-bike[77]

115. These developments led Aima's Vice President Wang Wei last year to the conclusion that *"China E-bikes have entered a bottleneck period in their industry"*.[78] With huge State-subsidised overcapacities in China, Aima saw the solution in the production of EPACs for the EU market, with the opening of a presence in Switzerland[79] as hub for sales to the EU market in a first step, and subsequently a sales presence in Germany directly.[80]

116. Accordingly, at the 2016 e-bike show in Shanghai, large Chinese producers such as Aima, Tianjin Golden Wheel and Battle[81] showed that the Chinese producers have made a strong move away from the production of Chinese-style electric throttle bicycles and towards EU-style EPACs (which do not move without human power). As (western-style) e-bikes are a clear target area in the 12th and even more so in the 13th 5-Year Plan for Bicycles[82], the Chinese authorities at provincial, regional and local levels have provided hundreds of millions of euros in subsidies to support that switch, e.g. for the development of the EPAC technology. As a result, at the 2017 Shanghai bicycle fair, the number of EPACs exhibitors was described as "striking".[83]

117. Indeed, in addition to the ban of Chinese-style throttle electric bicycles in several major cities in 2015-2016, the market entry of bike-sharing companies in 2016 introduced a new source of production overcapacities in the Chinese bicycle market. Competing via large volumes and subsidised prices, sharing companies like Mobike, Ofo and Obike flooded big Chinese cities with bicycles, leading to a tremendous oversupply of sharing bicycles within less than 12 months. In the first half of 2017, bike-sharing companies placed more than 20 million bikes on the Chinese market, of which 11 million bikes were manufactured by Fushida. In Shanghai alone, bike-sharing companies placed 450,000 bikes on the market in only 6 months. This created enormous logistical and environmental problems with bikes "parked" everywhere,[84] but in that manner, the flagship companies, Mobike and Ofo, accumulated more than 25 million active users in less than one year.

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77 E-bikes traditionally sold on the Chinese market have a throttle (which allows self-driving) and have usually been equipped with lead batteries. They resemble small EU mopeds.

78 See **Annex 4**, AIMA Hi-Tech launches business in Switzerland.

79 See **Annex 4**, AIMA Hi-Tech launches business in Switzerland.

80 See **Annex 4**,Will the export to Foreign Markets be a new way out for Chinese Electric Vehicles?

81 See **Annex 4**, 2016 Shanghai Show: Chinese E-Bike Makers Turn to Europe.

82 See **Annex 6**, pages 6 to 13, and **Annex 7**, pages 6 to 17.

83 See **Annex 4**, 27th China International Bicycle Fair Kicked off in Shanghai.

84 See **Annex 4**, Problems generated by e-bikes oversupply in China.

118. These bike-sharing companies mainly source from large State-owned or State-subsidised suppliers like Phoenix and Fushida, or have set up their own production facilities (e.g. Mobike in cooperation with Foxconn). While these producers experienced a (temporary) revival of their production, traditional bicycle producers that do not have supply contracts with the bike-sharing companies have struggled with drastic demand decreases as consumers no longer purchase their own bicycles. Accordingly, total bicycle sales in China have declined 60-70% in the last year, resulting in further structural production overcapacities.[85] This is no accident as Ofo's declared mission, for example, is *"to make bike ownership dispensable"*.[86] In addition, there are no plans for the time after bike-sharing companies will have saturated the demand for bike-sharing bicycles. There is therefore additional pressure on the Chinese bicycle industry to seek relief via dumped exports, or in other words, by extending further their internal State-subsidised price wars to third countries.[87]

119. It is important to note that the production and assembly of EPACs can be done with the same equipment and personnel as the production and assembly of traditional bicycles and Chinese-style throttle e-bikes[88]. Switching to EPACs does not require more than a basic training for the assemblers on how to affix the engine. Therefore all structural bicycle overcapacities in China can be used to produce EPACs within a minimal timeframe.

120. The Complainant also questions whether there is a future for pedal assist e-bikes in China. In particular, it appears unlikely that the millions of Chinese factory workers and low-level employees who make their daily commute on throttle-driven Chinese style e-bikes, scooters or shared bikes would switch to pedal assist e-bikes. Especially in large cities like Shanghai, Dongguan, Shenzhen, Dalian, or Ningbo, this seems unlikely. The green and health movements in China have not yet caught up with those currently in Europe. For the time being, pedal assist e-bikes in China are therefore likely to remain a leisure niche product for the middle and upper classes. This is in line with Chinese manufacturers openly announcing in 2016 that they have shifted their focus to production for the EU market.[89]

121. In sum, there are presently massive spare Chinese production capacities of at least tens of millions of e-bikes available to target the EU market.

122. As it is, rapidly increasing volumes of EU EPAC imports from China have been sold at heavily undercutting and dumped prices. There is no indication that this would change at any point in the near future. To the contrary, as Chinese producers carry their domestic price war abroad to seek relief for their massive and increasing production overcapacities, price pressure on EU producers is certain to increase further due to the dumped imports from China. It is not viable for the EU industry to be forced to compete under such unfair conditions.

123. In conclusion, at the current volumes and price levels, and considering the tremendous structural production overcapacities in China, imports of e-bikes from China constitute an imminent and real threat of (further) material injury to the EU industry.

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85 See **Annex 4**, FT – China's bicycle-sharing boom poses hazards for manufacturers. See also **Annex 5**, Overcapacities of e-bikes in China.

86 See **Annex 4**, With $700 Million Chinese Bike Sharing Firm Ofo Targets Europe.

87 See **Annex 4**, Will the export to Foreign Markets be a new way out for Chinese Electric Vehicles?

88 See **Annex 5**, Overcapacities of e-bikes in China.

89 See **Annex 4**.

8. Causation

8.1. Imports of the product concerned

124. As shown in the previous sections, EPAC imports from China have caused and threaten to cause (further) material injury to the EU industry, in particular if a level playing field is not restored on the EU market by the imposition of AD measures.

125. EPAC imports from China have almost doubled over the period under consideration and have been sold at highly undercutting dumped prices.

126. They are projected to continue to increase at unsustainably low dumped prices through CY 2017, as Chinese producers try to find an outlet for their structural and increasing production overcapacities via dumped exports to the EU.[90]

8.2. Other potential causes

127. The Complainant has analysed various other factors but none of them has caused or threatens to cause material injury to the EU producers, or broken the causal link between dumped imports of the product concerned and the (threat of) material injury to the EU industry.

a. Imports from third countries

128. Apart from China, only Hong Kong, Japan, Switzerland, Taiwan, and Vietnam had noteworthy e-bike exports to the EU.[91] Together with the imports of the product concerned from China, e-bike imports from these countries accounted for 97 to 99% of all EU imports during the period under consideration.

[90] See **Annex 4**.

[91] Compare footnote 61.

Table 7 – Eurostat import statistics

Partner	Indicators	2014	2015	2016	IP
Hong Kong	Value (000 €)	165	5,662	2,293	1,459
	Quantity (000 pieces)	<0.5	38	33	24
	Price (€/piece)	357	150	70	61
	MS (%)	0.0%	2.8%	2.0%	1.4%
Japan	Value (000 €)	18,652	5,929	3,456	2,561
	Quantity (000 pieces)	17	4	2	1.4
	Price (€/piece)	1,098	1,406	1,688	1,778
	MS (%)	1.5%	0.3%	0.1%	0.1%
Taiwan	Value (000 €)	13,278	24,788	66,850	82,307
	Quantity (000 pieces)	21	43	79	91
	Price (€/piece)	622	575	845	901
	MS (%)	1.9%	3.2%	4.7%	5.2%
Vietnam	Value (000 €)	16,477	40,025	49,534	53,074
	Quantity (000 pieces)	38	74	91	98
	Price (€/piece)	435	539	542	543
	MS (%)	3.3%	5.4%	5.5%	5.6%
Switzerland	Value (000 €)				
	Quantity (000 pieces)	0.9	14	28	28
	Price (€/piece)	1,140	1,391	1,602	1,668
	MS (%)	0.1%	1.0%	1.7%	1.6%

Source: Eurostat, **Annex 25**[92]

129. Imports from **Hong Kong** declared under CN code 8711 9010 between 2014 and 2016 do not appear to be EPACs covered by this Complaint. First, the average import prices reported by Eurostat are much too low even to be very cheap hub engine e-city bikes. Furthermore, to the best knowledge of the Complainant, there is no genuine Hong Kong e-bike production.[93]

130. Imports of e-bikes from **Japan** decreased from a 1.5% market share in 2014 to 0.1% in the IP. Also, imports from Japan were sold at significantly higher, non-injurious prices during the period under consideration. It is therefore reasonable to conclude that they did not cause or constitute a threat of material injury to the EU industry and are also unlikely to be a cause of material injury in the near future.

131. The EU market share of imports of e-bikes from **Vietnam** has grown from 3.3% to 5.6%, while prices have increased throughout the period under consideration.

132. To the Complainant's best knowledge, there is one (major) Vietnamese exporting producer, namely Strongman, whose sales to the EU are made primarily, if not exclusively, to the German dealer association ZEG (Zweirad Einkaufsgenossenschaft).[94] This is also confirmed by Eurostat data, according to which 97-100% of EU EPAC imports from Vietnam entered Germany.

92 See also footnote 61.

93 See **Annex 31**, Information on imports from Hong Kong.

94 See http://www.zeg.de/.

Table 8 – Eurostat imports from Vietnam

Reporter	Indicators	2014	2015	2016	IP
Germany	Volume (units)	37,777	73,180	88,997	94,682
	Price(€/unit)	434	535	535	535
	% of total imports from Vietnam (volume)	100	99	97	97
EU28	Volume (units)	37,892	74,259	91,468	97,819
	Price(€/unit)	435	539	542	543

Source: Eurostat imports from Vietnam under CN code 8711 9010 and 8711 6010, **Annex 25** and **Annex 32**.

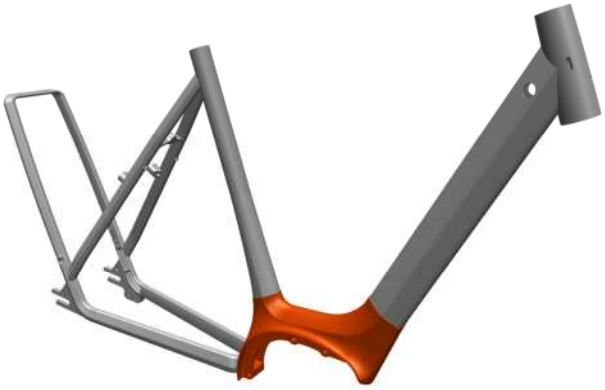
133. Furthermore, it appears that most ZEG e-bikes are equipped with (EU-made) Bosch systems.[95] It would therefore be reasonable to conclude that the Eurostat CIF prices are for semi-finished bikes and that (at least) the engines, batteries and computers are assembled in the EU, as well as potentially other parts.[96] Indeed, it would not make commercial sense to ship Bosch motors from Germany to Vietnam, mount them onto the bike and ship the e-bikes back to Germany. This would lead to much longer delivery times, additional shipping costs and additional administrative paperwork.

134. ZEG's sales to final customers[97] are, however, made at non-injurious price levels as shown in **Annex 32**. After adding the trader mark-up, ZEG/Strongman's prices of final e-bikes are at levels similar to those of the companies supporting the Complaint.

135. In sum, while Eurostat figures appear to indicate that imports from Vietnam may be dumped and undercutting, there is a strong indication that the imports are not complete EPACs and in any event the (finished) products are not sold at injurious price levels on the EU market.

136. We note that incomplete centre engine e-bikes (comprised of all the essential parts) would still be classifiable under Tariff subheading 8711 60 (previously 8711 60) and not heading 8712 (normal bikes). As can be seen from Figure 10, the frame has a specific shape for the affixation of the centre engine and could not be used without it. They are therefore clearly distinguishable from normal bikes.

Figure 10 – Frame of e-city bike with central engine (Bosch)



95 See **Annex 32**.

96 Even if ZEG were to export Bosch engine systems to Vietnam for assembly into the e-bikes that are then exported to the EU, it would presumably use the EU's outward processing customs regime to do so. That would mean that in any event the customs value reported by Eurostat would not include the value of the engine system.

97 See e.g., **Annex 32**.

137. In sum, it is reasonable to conclude that the Vietnamese imports are not a cause of injury to EU e-bike producers, and in any event cannot break the causal link between the (threat of) material injury and dumped imports of e-bikes from China.

138. The Complainant will however continue to monitor closely imports from Vietnam with a view to identifying their exact assembly stage, so as to be in a better position to assess whether the market data would justify a request for an AD investigation of those imports at a later stage.

139. Imports of e-bikes from **Taiwan** have increased their EU market share over the period under consideration, from 1.9% to 5.2%, while the average import prices have also increased continuously since 2014. The overall low price levels might also indicate that e-bikes from Taiwan are partially shipped to the EU without motor and battery, which are only affixed by the EU distributors (as is the case for Vietnam). Therefore, imports of e-bikes from Taiwan are unlikely to have caused material injury to the EU industry during the period considered. Especially considering the volumes and prices of imports of e-bikes from China, imports from Taiwan have clearly not broken the causal link between the dumped imports from China and the (threat of) material injury of the EU industry in the IP. In particular, unlike China, Taiwan does not have huge State-subsidised overcapacities which are desperately looking for sales markets. However, the Complainant will continue to monitor imports from Taiwan closely.

140. Imports from **Switzerland** increased from below 1,000 to approximately 28,000 pieces in the IP. They accounted for approximately 1.6% of EU demand in the IP. Most Swiss exports are made to the EU and, considering domestic demand in Switzerland, Swiss producers do not have sufficient spare capacities to increase substantially their exports to the EU (compare para 65). Furthermore, the trade balance with Switzerland is even (EU producers exported approximately 30,000 EPACs to Switzerland in 2016). In addition, Swiss imports were made at price levels similar to those of EU CIF prices. It is therefore reasonable to conclude that imports of EPACs from Switzerland are not a cause of injury to the EU industry.

b. Performance of other EU producers

141. The macro data in Table 6 shows developments for the industry as a whole similar to those of the EU producers supporting this Complaint.

142. The macro data is partially provided by the association and partially extrapolated based on data from the companies supporting the Complaint.[98] That data has therefore only limited significance for a causation assessment. In any event, Table 2 and **Annex 26** clearly indicate that other EU producers have lost even more market share than the companies supporting the Complaint over the investigated period.

143. In other words, other EU producers have also been materially injured by EPAC imports from China and are not themselves a separate cause of injury to the companies supporting the Complaint.

c. Increasing production costs

144. Table 6 shows an increase in the production costs of the companies supporting the Complaint from €1,245 MT in 2014 to €1,363/MT in the IP. The cost breakdown provided in **Annex 26** further shows that the cost increase stems from raw material costs rather than manufacturing costs, overhead or SG&A.

145. Indeed, the increasing costs of the EU industry also reflect the shift in demand from hub engine e-bikes to centre engine e-bikes and in particular, the increasing popularity of e-mtbs.

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[98] See **Annex 23**, email from Conebi explaining the calculation of EU consumption.

146. E-mtbs must be made from parts and components (frames, forks, breaks, gear shifts, etc) that can withstand the strong physical forces encountered when riding up- and down-hill in an alpine environment. E-mtbs therefore require more expensive parts than e.g. an e-city bike used in a flat Dutch suburban environment.

147. Equally some e-bike parts are more expensive for e-mtbs than for other e-bike types. Because e-mtbs are used for longer trips of several hours, they are usually equipped with a high capacity battery. Also, they usually have a multifunction computer rather than a simple control unit.

148. The increase in average unit costs therefore reflects the shift from hub to centre engines and the increasing popularity of e-mbts, and is not a separate cause of injury of the EU industry. To the contrary, the shrinking profits clearly show that due to the undercutting price pressure of dumped e-mtb imports from China, the EU industry is no longer in a position to generate reasonable profits even on the newest, most innovative product type.

d. Export performance of the Union producers

149. Exports of the companies supporting the Complaint accounted for approximately 3-4% of their total sales during the period under consideration. Their overall impact on the performance of the supporting companies is therefore negligible, especially when compared to the price pressure exerted by the imports of dumped e-bikes from China. It is therefore reasonable to conclude that exports are also not a separate cause of material injury in relation to the performance of Union producers on the EU market.

8.3. Conclusion on causation

150. In sum, there are no known factors that would break the causal link between the dumped imports of e-bikes from China and the (threat of) material injury suffered by the EU industry.

9. Union interest

151. The imposition of AD measures on imports of the product concerned from China is in the overall EU interest, first and foremost to remedy the material injury and the threat of further material injury which those imports are causing to Union producers. Further, the requested trade defence measures would restore fair competition in the Union and prevent a further worsening of the EU industry's injury. This in turn would ensure that consumers have a long-term, sustainable and reliable source of supply, and would furthermore guarantee that the Intelligent Transport Systems Initiative continues in the EU to the benefit of the EU consumer.

152. Measures would not result in a shortage of supplies, because (a) imports of the product concerned from China could continue to enter the EU (on a fairly traded basis), and (b) there are sufficient available e-bike capacities in the EU and in third countries to cover any decrease in imports from China. A failure to impose measures would allow imports of dumped e-bikes from China to wreak havoc on the EU market, with stark and disastrous effects on employment in the industry, and on the continued innovation and production capacity which also benefits other high-technology sectors in the EU.

9.1. Development of innovations and technologies, and training of skilled labour in these technologies

153. The fine precision mechanics industry in the EU is a symbiotic system of SMEs and large companies, who together determine the competitiveness, R&D and innovation capabilities of

the whole Continent. With over 90,000 direct and indirect skilled workers, the EU bicycle industry has invested over €1 billion in EPAC development in 2016 alone.[99] However, with a very negative domino effect, the loss of the e-bike industry in Europe would make the whole bicycle industry, and indeed the entire industrial system in the EU, less competitive, and block the development of practical engineering know-how for the application of ultimate high technologies, including automation and new materials, through the mass production of millions of parts and millions of high-technology e-bikes.

154. E-bikes and their components have been going through unprecedented technological development in the last 15 years. Thanks especially to the major innovations developed and adopted by the EU e-bike producers and Bosch (who developed one of the best pedal assist systems presently available on the market), the classic bicycles evolved to e-bikes. Currently, the industry is already working on the next generation of bicycles, smart e-bikes, which in addition to pedal assisted riding, will also include enhanced navigation, guidance and safety technology. The bike will then provide the rider with the safest and shortest route, traffic warnings, health and performance information, etc.[100] These developments in the e-bike also benefit the e-car industry and are therefore an essential key cornerstone of the EU's Intelligent Transport Systems initiative.

155. Vice versa, developments initially made for the automotive, aerospace and other industries find their most successful application in large volumes in the bicycle industry. For instance, while most cars are still made of steel, bicycles and in particular e-bikes are increasingly made from aluminium, carbon-fibre composites and titanium.

156. Today, EU bicycle and parts makers source their raw materials, semi-finished products and machineries/automation from the same fine precision mechanics EU producers who also supply other industries, including motorcycles and automobiles.

157. Most notably, Bosch was able to develop its high-precision pedal assist engine thanks to its decades of experience in high quality tools, ranging from power tools (for private and professional use) to drive and control technology. On the e-bike market, Bosch's pedal assist engine can be put to mass application to protect the climate and the health of millions of EU citizens.

158. In addition, several other bicycle parts that are used both in standard bicycles and e-bikes come from high-precision industries. For instance, the high-precision fine machining ("décoltage") industry of the Haute Savoye in France is a very important supplier to the car industry, but also to one of the most important high-end bicycle parts makers in the EU, Mavic, based in Annecy, France.

159. The carbon fibre frame producer Ernesto Colnago was the first producer of a carbon fibre frame almost 20 years ago, for his Ferrari branded high end bicycles (http://www.colnago.com/ferrari/). His suppliers are actively working for the automotive industry, especially Ferrari, and in particular in the new project of the all carbon-light alloy e-cars of BMW.

160. The "matrix sandwich technology" of carbon and light alloys, now very much utilised in the aircraft industry, has already been applied for a long time in bicycle components: the next development will be the so-called carbon fibre and magnesium "matrix".

161. The increasing popularity of e-bikes with EU consumers will further accelerate these trends, as precision, electronic, high-tech and light-weight parts are even more important for the performance of e-bikes as compared to standard bicycles.

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99 See **Annex 8**.

100 See **Annex 3**, EU policy for sustainable urban mobility – focus on cycling.

162. The EU bicycle and e-bike industry, and e-bikes in particular, will therefore continue to be the best industrial training school for generations of EU engineers, especially now that very important new technologies can more easily be adopted first in bicycles and e-bikes, rather than in motorcycles and cars. E-motorcycles and e-cars will indeed profit from the substantial experience developed in e-bikes, just as it happened in the 19th century with "mechanical mobility". This first mobility revolution for easy personal transport began with bicycles, and then developed into motorcycles and automobiles. In many cases, the same bicycle factory also became a motorcycle and automobile producer. This happened for instance with Bianchi in Italy and Peugeot in France. The modern e-mobility revolution has equally started with two-wheeled cycles developed and produced by EU e-bike factories, and it will also graduate to e-motorcycles and e-cars, provided the EU e-bike industry is not destroyed first by unfair competition from China.

9.2. Maintaining "green" and highly skilled EU employment

163. If AD measures are not imposed, EU e-bike producers will be prevented from profiting from the current growth in EU demand (which was generated by the EU industry's invention of EPACs in the first place). As a result of that, EU producers of e-bicycles will keep on losing market share to the dumping of Chinese competitors, and the injury which they are currently suffering will be further aggravated.

164. In line with the above, the absence of AD measures would lead to a further surge in dumped imports that would force EU producers to stop new investments, curtail production, close lines, and lay off workers due to downward pressure on prices and increasing losses, as evidenced by the slowing production, sales and employment growth rates of the companies supporting the Complaint during the investigated period. Workers' jobs depend directly on the maintenance of fair trading conditions in the EU.

165. The bicycle/e-bike industry is the largest employer of the "green industries" in the EU. Overall, the bicycle and parts industries in the EU employ directly approximately 45,000 totally "green" and highly-skilled employees.[101] In addition, there is at least the same number of indirect jobs dependent on the EU bicycle industry, such as upstream suppliers of raw materials and (semi-finished) components, as well as manufacturers of machinery, moulds, robots, etc. Nowadays, consumers demand new / updated products every year. The e-bike industry and its suppliers must therefore make continuous investments in innovation and quality control, and have a high and increasing demand for skilled workers and engineers.

166. However, all these EU investments and jobs are at risk if no measures are imposed on dumped and subsidised EU e-bike imports from China.

9.3. Consumers favour a strong bicycle industry in the EU

167. It is in the interest of consumers to have a market that functions in a fair way, with healthy Union producers, to ensure continuity of supply for the future.

168. Indeed, the demand by consumers for better quality, more safety and lighter weight in the best and richest bicycle and e-bike market in the world, Europe, has been the driving force of innovations, and EU producers have listened and quickly responded, as the increase in e-bike consumption unequivocally shows. For that reason, EU consumers, represented by the

[101] See **Annex 8**, European bicycle market – employment figures.

European Cyclists' Federation ("ECF"), have on many occasions clearly underlined the importance of having a strong bicycle industry in the EU.[102]

169. Moreover, the imposition of trade defence measures would not put at risk the supply of e-bikes to the EU market, because consumers would still have many alternative sources of supply, both within and outside the EU. In any case, the aim of the requested duties is not to eliminate EU imports from China, but to restore fair competition, and Chinese e-bikes will continue to be available in the EU market at fair prices. Thus, AD measures would have no significant negative impact on consumers.

9.4. Continued development of the e-bike market in the EU

170. The EU industry invented and developed the pedal assist e-bike technology. The current boom in the EU is due solely to the financial and other commitments the EU industry and its parts suppliers have made to that new market. As in other (high-end) consumer markets, the initial consumer interest was triggered by high-quality, high-end products and slowly developed into a mass market. The market is still in a relatively young state and without the continued investments by EU industry in the e-bike technology, market growth will likely stagnate or even reverse. This is because the main growth drivers are still the new inventions by EU producers, in particular the high-end bikes. If the EU industry goes out of business (and these high-end e-bikes are therefore no longer available to EU customers), consumer interest would level off.

171. In this sense, the e-bike market can be compared to the market for mp3 players. Mp3 players were available before the iPod, but it was really the iPod that sparked consumer interest and kicked off the boom in demand. Arguably, without the iPod, the movement away from mini-disk and CD to mp3 players would not have happened (as fast), or would have likely slowed down had Apple stopped making the product while the market was still in its early stages.

172. The same would apply to the EU e-bike market if the innovative EU industry is put out of business by unfairly traded imports from China. This is clearly not in the interest of the EU overall nor in the interest of the EU consumer in particular. Indeed, in line with the Intelligent Transport Systems Initiative, the next step in bicycle development will be the smart bike which in addition to pedal assisted driving, will also include enhanced navigation, guidance and safety technology, e.g. the bike will provide the rider with the safest and shortest route, traffic warnings, health and performance information, etc.[103]

9.5. Non-imposition of AD measures would threaten EU production for other high-technology sectors

173. If AD measures are not imposed, the present difficult situation would become far worse for EU producers, and their EU parts suppliers, in particular Bosch. Many of the parts suppliers also produce for other high-technology sectors (e.g. automotive), and they depend on their sales to EU bicycle producers to have the scale needed to compete on the EU market. If those parts suppliers go out of business as a result of a failure to ensure fair competition in the EU e-bike market, there would be a knock-on effect, as there would be a reduction in EU parts supplies to other high-technology sectors as well.

174. Furthermore, EPACs are a cornerstone of the EU's Intelligent Transport Systems Initiative and the frontrunners in light electric vehicle development, a market estimated to be worth €29

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[102] See e.g. **Annex 33**, Importance of the EU bike industry and Regulation 502/2013, recitals 256 et seq.

[103] See **Annex 3**, EU policy for sustainable urban mobility – focus on cycling.

billion by 2026.[104] It is therefore clearly not in the overall EU interest to let the innovative and environmentally friendly EU e-bike industry be forced out of business by unfairly traded imports, thereby putting in jeopardy EU light electric vehicle development and an important part of the Intelligent Transport Systems Initiative.

9.6. Key role of e-bikes in meeting EU's environmental targets and improving public health

175. Bicycles in general and e-bikes in particular can play a decisive role in combatting climate change and reducing carbon emissions.

176. Bicycles and e-bikes are the most environmentally friendly, energy efficient and sustainable means of (e-)mobility. Further advantages vis-à-vis other means of transport are their low costs in terms of registration taxes, parking and service maintenance, and the fact that bicycles and e-bikes are a much less noisy means of transport than cars or motorbikes.

177. According to a study recently carried out by the Institute for Transportation and Development Policy of the University of California, a rapid increase in biking and particularly e-biking could reduce carbon emissions from urban passenger transport by nearly 11% by 2050, in addition to saving more than US$ 24 trillion in various costs.[105] A study sponsored by the Commission reached essentially the same conclusion already in 2011.[106]

178. Furthermore, a recent study by Politecnico Milano compared the CO_2 emissions of EU-made versus Chinese-made bicycles and e-bikes. The study concludes that the production of one bicycle or e-bike in China produces between 61 and 123 kg more CO_2 and other dangerous emissions than the same bicycle made in the EU. In other words, if the entire annual EU demand for bicycles and e-bikes, approximately 21 million bikes, were imported from China, their production would generate over 2 million MT more in CO_2 and other emissions than if the bicycles were produced in the EU.[107]

179. The potential of EU-made e-bikes as an environmental friendly substitute for cars and other more polluting means of transport is therefore very strong, and even stronger than that of bicycles. The pedal assist engine allows the rider to cover longer distances or cycle the same distance with less effort. E-bikes are therefore also attractive to elderly or less athletic persons who would otherwise chose the car or public transport over a bicycle. This in turn has a positive impact on public health.

180. It is therefore reasonable to conclude that the existence of a strong European e-bike industry will benefit not only workers or companies belonging to this industry, but also the European society as a whole. Consequently, the adoption of trade defence measures against unfair trade practices in the e-bike market is also justified by these further environmental and health considerations.

9.7. Conclusion on Union Interest

181. As demonstrated above, the imposition of AD measures would re-establish fair trading conditions, and have no significant adverse impact on consumers of the product concerned in the EU. On the contrary, EU consumers (many of which are employees in the sector) stand to

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104 See **Annex 1**.

105 See **Annex 34**, *Bicycles can be a 'huge part' of combatting climate change*.

106 See **Annex 35**, ECF Study – *Cycle more often 2 cool down the planet!* See also Regulation 502/2013, recital 249.

107 See **Annex 36 –** Milan Politecnico – Comparison of CO_2 Emissions of Chinese-made and EU-made bicycles and e-bikes.

lose if the accelerating imports from China are permitted to disrupt the market and force EU producers to shut down production. Further, major EU investments, innovation and competiveness, as well as substantial employment and the protection of the environment, would be at risk without the imposition of measures.

10. Request for registration of imports

182. The Complainant requests that the Commission make use of its power under Article 14(5) of the Basic Regulation and direct the Member State customs authorities to take the appropriate steps to register imports of e-bikes from China immediately upon initiation of the requested investigation.

183. Indeed, there is a real and severe risk that Chinese exporters will entirely undermine the remedial effect of (potential provisional) measures by stockpiling massive volumes of EPACs in the EU. Registration is therefore needed for the Commission to have flexibility to apply measures retroactively in accordance with Article 10(4) of the Basic Registration.[108]

184. The risk of stockpiling and of undermining the remedial effect of (provisional) measures is supported by the skyrocketing increase in imports of EPACs from China since 2014 and in particular during the first seven months of 2017 as compared to the seven months of 2016.

185. While import volumes from China have increased sharply, prices between 2014 and the IP have increased by a relatively small percentage (see Table 4), which is significant as a sign of injury to EU producers considering that the product scope of e-bikes imported from China has moved significantly from mainly entry level e-city bikes in 2014 to middle (and high-end) e-city, e-trekking and e-mtbs in the IP.

186. The injurious import trends (in terms of both prices and volumes) have accelerated explosively in the last seven months, as can be seen in Table 5. In fact, the Complainant would expect a further increase in imports of EPACS from China even under normal market conditions. Trade between Chinese exporters and EU importers takes place throughout the year as – while the main selling times to end customers are spring and summer – EPAC sales are less seasonal than the sales of normal bicycles and large EU customers have warehouses and distribution centres to stock products.

187. However, considering that (i) the 13th 5-Year Plan makes it a clear goal of the Chinese government to export every year more EPACs, (ii) Bafang is now able to build centre engine systems that can fully compete with EU made products and Chinese producers therefore have entered the e-mtb market segment, and (iii) the EU is the largest (and currently essentially the only high-volume) market for EPACs, it is reasonable to conclude that the initiation of an AD investigation will lead to a further dramatic surge in imports of EPACs from China during the rest of 2017 and the first half of 2018 with an aim to stockpile products at least for the CY 2018 and spring 2019.

188. Without registration and the possibility to impose AD duties retroactively, Chinese producers could then simply continue to sell their dumped and undercutting products to EU customers without the payment of AD duties and fully undermine the remedial effect of AD duties.

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[108] Article 10(4) of the Basic Regulation allows the retroactive application of measures where: (i) there is for the product in question a history of dumping over an extended period, or the importer was aware of, or should have been aware of, the dumping as regards the extent of the dumping and the injury alleged or found; and (ii) in addition to the level of imports which caused injury during the investigation period, there is a further substantial rise in imports which, in the light of its timing and volume and other circumstances, is likely to seriously undermine the remedial effect of the definitive anti-dumping duty to be applied.

189. As shown in section 6, exports of EPACs from China have not only been dumped over an extended period, but in fact sold at such low prices in the EU that importers (as well as all other market participants in the bicycle sector) must be aware of the fact that they heavily undercut, i.e. injure, the EU industry.

190. Furthermore, as discussed above, it has even been reported in the press that Chinese producers knowingly and purposely carry their domestic price wars abroad and that this bears a risk of dumping actions against them.[109] Furthermore, rumours that the EU industry would bring an AD complaint against EPACs from China have been in the market since at least autumn 2016.[110]

191. All market players, including importers, have therefore been well aware of the unfair trade practices of Chinese exporting producers and the possibility that the EU industry file an AD complaint. In addition, Chinese bicycle producers have dumped bicycles on the EU market and/or tried to circumvent the EU anti-dumping duties on bicycles for many years.

192. In sum, there is a clear and urgent need for registration of imports and registration would not disproportionally disadvantage EU importers as they should have clearly been aware of and alerted to the Chinese exporting producers' unfair trade practices.

193. The Complainant accordingly respectfully requests that the Commission gives instructions to the customs authorities of the EU Member States to register EPACs imports from China upon initiation of the requested AD investigation, or as soon as possible thereafter.

11. Conclusion

194. For the reasons set out in this Complaint, the Complainant kindly requests that the Commission initiate an AD investigation with a view to imposing AD measures on imports of e-bikes from China, and already register imports from the start of that investigation.

* The information marked as "Limited" is confidential as provided for in Article 19(1) of the Basic Regulation. Its disclosure would be of significant competitive disadvantage to a competitor or would have a significant adverse effect upon the person supplying the information or upon a person from whom he/she has acquired the information or which is provided on a confidential basis by parties to an investigation.

[109] See e.g. **Annex 4**, Will the export to Foreign Markets be a new way out for Chinese Electric Vehicle?

[110] See **Annex 37**.

Certification

The undersigned certifies that the information provided in this Complaint is complete and accurate, to the best of his knowledge, and that he has been authorised to represent the Complainant.

Moreno Fioravanti
EBMA