

MOTOCOZY - ARTWORK DESCRIPTION

A well-known problem in families with small children is that a child who can already walk requires the use of a stroller for a long time. Typically, around the age of one and a half, he can safely cover relatively long distances, but he gets tired quickly and needs rest. At the same age, he already learns to "ride a motorcycle", but he still needs a stroller that provides a sitting-lying, resting position. From the above, it follows that the parent is forced to bring a stroller in addition to the scooter/running bike. As a father of three children, I had the idea of a construction that combines a running bike with a stroller more than ten years ago. The original design, supported by patent innovation research, satisfies the requirement of simplicity both in terms of use and construction.

1. PROBLEM PRESENTATION AND CURRENT SOLUTION

Children usually start walking at the age of one and a half. However, this is mostly the beginning of a transitional period that lasts for years. During this period, the child is unable to cover longer distances without resting. The parent has to decide whether to carry the stroller empty - thus preparing for carrying the child who will be exhausted later - or undertake to pick it up in defiance of the discomfort, or perhaps carry the increasingly heavy youngster.



Initial test model, SolidWorks, 2017



Study shape designed in 3D Studio, 2019

The strollers on the market can be used up to the age of 3, although even a 4-year-old child can get tired during a long walk. If the child is riding a motorcycle or bicycle, the parent must take the empty stroller. When the child gets back into the stroller, the running bike must be placed somehow on the stroller that is inconvenient for this.

This product eliminates the need to carry an empty stroller, and at the same time provides a solution to ensure the rest of an already tired child. The Motocozy running bike-stroller hybrid educates the child to be independent, as it also carries the relaxation device itself. At the same time, the parent, who is already forced to carry a lot of things, is freed from carrying one of the biggest burdens.

2. BRIEF PRESENTATION OF THE PRODUCT

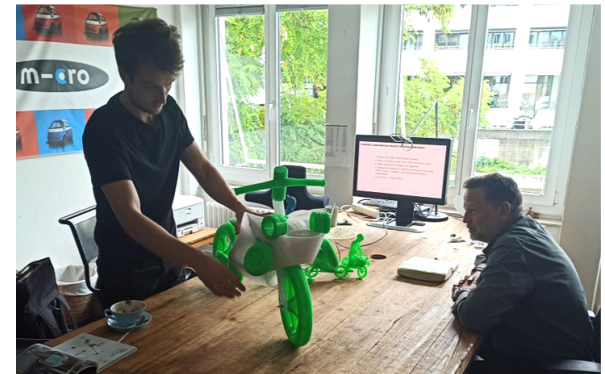
Motocozy is a 2in1 product that can be transformed into a stroller and back into a running bike with a single movement. The invention relieves the burden on the parent, since he or she freed from carrying either the stroller or the running bike. The device can be used comfortably up to the age of 4, which will postpone the use of a stroller by an average of a year. This solution also reduces the physical burden on parents.

In addition to the fact that we see the design of products that benefit parents with small children as a real mission, we must emphasize the fact that this hybrid product greatly reduces the burden on the environment. With the weight of

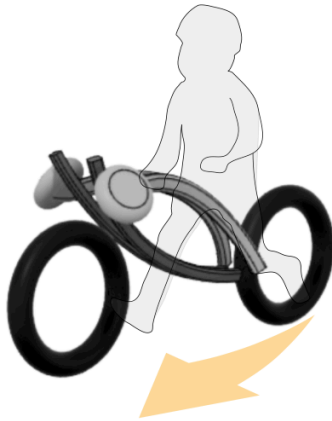
Motocozy around 5 kg, we are at the forefront of stroller products, where models weighing around 15 kg are common. If we succeed in replacing the running bike with our product, we will save quite a few kilograms of material. We also consider it important to save on fuel, since typically the parent prefers to go by car even for a very short distance - to the nearby nursery or kindergarten - for fear that the child will be exhausted before the destination. Last but not least, we consider the education of the child to be independent and an important aspect.



Photo: Mini Glider balance bike



Motocozy presentation in the Micro office to Wim Ouboter, Zürich, 2021



Curved bar system, Fusion360, 2020

3. APPLICABLE TECHNOLOGY AND INNOVATION

The breakthrough was a mechanical solution that proved to be extremely simple, yet - confirmed by patent novelty research - completely novel. By pulling out the bars that move in sync on the curved track, the running bike turns into a stroller with one movement. In addition, the construction is surprisingly simple, easy to implement, and consists of few parts. The separation of the saddle and the stroller seat is also of great importance. A seat intended for relaxation mismatches the function of a comfortable saddle for pedalling, and vice versa. Thus, in addition to the traditional saddle, the stroller seat was placed at the front of the bicycle.

4. DEVELOPMENT STEPS

As a designer, the feasibility of the idea seemed self-evident, since the size of the frame of the running bike is similar to stroller that can be easily folded. At the same time, the frame of a bicycle can be compared to the frame of a stroller. However, about 10 years and countless ideas that turned out to be dead ends followed between the idea and the feasible plan. Based on our parenting routine, it was obvious that only a product can be a real solution that can be easily converted from one function to another with one movement. Typically, we don't even fold a stroller that can be folded relatively easily, because there is so much to do around a small child that there is no time even for that movement. However, any product that actually makes life a little easier for the mother / father becomes an indispensable, must-have product.

The technical background of the product is protected by a patent. After the first submission, the patent was passed without any obstacles, and all 14 claims meet the highest criteria of novelty research.

5. CURRENT AND EXPECTED TRENDS

Increasing urbanization is a trend that can be observed worldwide. There are various forward-looking proposals for micromobilization to sustainably counterbalance urban traffic and the environmental burden. Although these developments are mostly related to the transportation of the larger population, i.e. adults, a couple of developments similar to Motocozy have also entered the market. The rise of hybrid models is expected, since it is a common problem to move a child who is often sleeping or resting from one device to another. It therefore seems reasonable to combine the devices both from the point of view of practicality and sustainability.

6. DEMAND SIDE

In developed countries, 79% of the population already live in cities, and 10 million children are born in such urban environments every year. The "small plastic motorbike" invented by László Neizer,⁷⁵ is extremely popular in our country, and



Test model, created in Fusion360, 2020

⁷⁵ <https://motokidz.eu/maxi-kollekcio/>



Taga bike, combined stroller and bicycle
Photos: Taga



Doona Liki Trike, combined stroller and trike
Photo: Doona

has spread around the world. Katalin Miskolci introduced the product with great success in the USA, where this genre was unknown until then. Based on her report, North America still represents a serious market niche, where, moreover, the use of strollers takes much longer, even until the start of school.

The stroller market is currently worth USD 1 billion and is expected to double within 10 years. The market for children's bicycles totals USD 18 billion, of which the market for running bicycles can be estimated to be close to the share of strollers.

In 2019, we participated as visitors in the most significant professional event, the Kind und Jugend Exhibition in Cologne. Based on the conversations with the manufacturers we met there, it turned out that the number of 100,000 units per year is achievable for each popular stroller product, but it is considered ambitious. However, the competition in this market is very strong, as there are many similar products competing. Based on Australian research, it can be said that an average child uses almost 3 strollers. From this, we come to the conclusion that parents are dissatisfied with strollers - presumably they want to buy smaller and easier to carry strollers for their growing children.

7. IDENTIFIED COMPETITORS

The products listed in the table enhance the functionality of the stroller by incorporating various additional features, making them potential competitors in this aspect. However, it is crucial to note that there is no single alternative solution

for a running bike. These devices augment the stroller function with options like a car seat (Doona), a tricycle (Liki Trike), a bicycle seat (Pahoj), or a child carrier with a cargo bike (Taga).

	Doona	Liki Trike	Pahoj	Taga	Motocozy
duration /years/	*	***	****	****	***
net weight	6,5 kg	6,7 kg	6,7 kg	19-25 kg	5 kg
child weight	15 mo / 13kg	20 kg	22 kg or 110 cm	25 kg	20 kg
child activity	-	+	-	-	+
MSRP	330-665 €	175 € - 336 €	350 €	2200 €	2-300 €

8. HOW IS THE PRODUCT BETTER?

For us, one of the most important bases for comparing products is the child's activity - that is, whether the child sits passively in the device or actively drives it. From this point of view, only one type is our real competitor, although many versions of it are known on the market, so the Liki Trike is just one of many. It is also clear from the linked analyzes that the tricycle is difficult for children to drive,



Doona convertible car seat / stroller
Photos: Doona



Pahoj convertible bicycle seat / stroller
Photos: Pahoj



bike mode



stroller mode

Motocozy study model with integrated stroller seat, created in Fusion360, 2022

as the position of the pedal is uncomfortable. Since there is no gear, the drive either requires too much torque or the vehicle speed will be too low. Based on these facts, it is easy to offer something better than this device.

When it comes to strollers, there are many different purposes, as each product has some strength, usually at the expense of some other function. The Stokke stroller, for instance, is much heavier and more expensive than the others, but the premium quality and unique construction can be attractive. GB's stroller is a world record holder in terms of folding and weight, but at the same time it is less ergonomic, it is not the most comfortable to use, and so on. We are convinced that the stroller operation of our product will be excellent in some aspects (weight, practicality, volume), while in other aspects it will be only good or average. However, we will probably not be better than the current best running bikes, because the weight of the product will definitely be greater than the best ones.

9. TYPICAL CUSTOMERS

Our target audience is an average family living in an urban environment, open to new things, but with an average income. Comfort and tranquility are important to our persona. This person likes to raise her child for sports, a healthy lifestyle, and independence. Someone who is definitely not a fanatical sportsman or a dedicated sling user, or even a die-hard cyclist. Our observation is that the latter hardly use a stroller, preferring to transport their child in a bicycle seat or in a baby carrier. These groups can be considered a subculture, based on our interviews, the

vast majority specifically want to buy Motocozy. Our customers are happy to receive a product that really makes this sometimes difficult time easier. A tired child who wants to rest can cause a lot of stress for the parent. In such cases, even parents experiencing back pain are likely to pick up their child if a stroller is out of reach. This frequently occurs with older children when it's argued that since the child can already walk, bringing a stroller is unnecessary. Unfortunately, as the child gets heavier, there is less and less chance of a stroller being available, so carrying it becomes even more painful. Our experience is that children prefer cycling to walking, as long distances can be covered more comfortably with the help of a running bike than on foot. The essence of the concept is that Motocozy is basically a running bike that can be converted into a stroller if needed.



Using Motocozy means fewer shoes, backaches, and stress - at the same time, more freedom, more space in the trunk, and a child raised to be independent. The target audience with environmental protection and sustainability aspects in mind will also find a good reason to buy Motocozy, as the hybrid solution places a much smaller burden on our planet than a combination of a stroller and a running bike.



Latest renderings by Sebestyén Ócsai, Fusion360

10. BUSINESS MODEL

Our company's income will come from the sale of Motocozy products. As you can see with more serious stroller brands, the basic product will be available with different equipment and accessories later on. The first option that comes to mind



Micro scooter
Photo: Micro

when it comes to accessories is the broadening of the user age. A relatively easy-to-implement solution to this is a Moses basket module addition, with which the product can be used even from newborn age. As a similar module, we would later offer a shell seat module bridging the period between the bassinet and the basic backrest that can be used from the age of one and a half, which offers a half-lying, half-sitting position for babies who cannot yet sit.

11. SALES STRATEGY

Our team's mentor, Wim Ouboter, who is the founding owner of the Zurich-based Micro brand, confirmed in his letter of intent that he would even distribute the finished product under his own brand name. Taking advantage of this opportunity, we are already entering an established sales system, with a reseller network of a premium global brand. Micro's network consists of independent distributors, they do not have their own retail units.

The Micro company's first product - the collapsible adult scooter with an aluminum frame launched in 1997 - laid the foundation for their success. In addition to their additional family of children's bicycles or children's scooters, this year they launched an electric mini-car, the reimaged modern version of the iconic BMW Isetta, the Microlino. This is also why Wim Ouboter did not undertake to finance our project, as they are focusing on the Microlino during this period.

Cooperating with Micro means handing over the sales strategy and all its details

to a truly experienced and capable company. Although it is a great honor and advantage to have such a company as a partner, we are convinced that it is also worth building your own brand so that you can also enjoy the benefits of independence. Our plans therefore include a product that can be customized with small changes, that is, it can also be sold in a private label design. The key to this is the very strong patent that specifically protects the novel, unique mechanism. To show the weight of this, the best example is provided by Micro itself. Their folding scooter, which became successful in no time, already had 500 (!) different - typically Far Eastern - competitors after one year. The reason for this is essentially that this product had no patentable novelty that could have prevented the idea from being stolen. In our case, regardless of the form we planned, the operating principle was protected.

Since Micro is a premium brand, it is conceivable that we produce a model for them in higher quality, from premium materials, while in another business construction - even as our own brand - we make a mid-range version aimed at customers with less money.



Microlino debuted in 2023
Photo: Micro