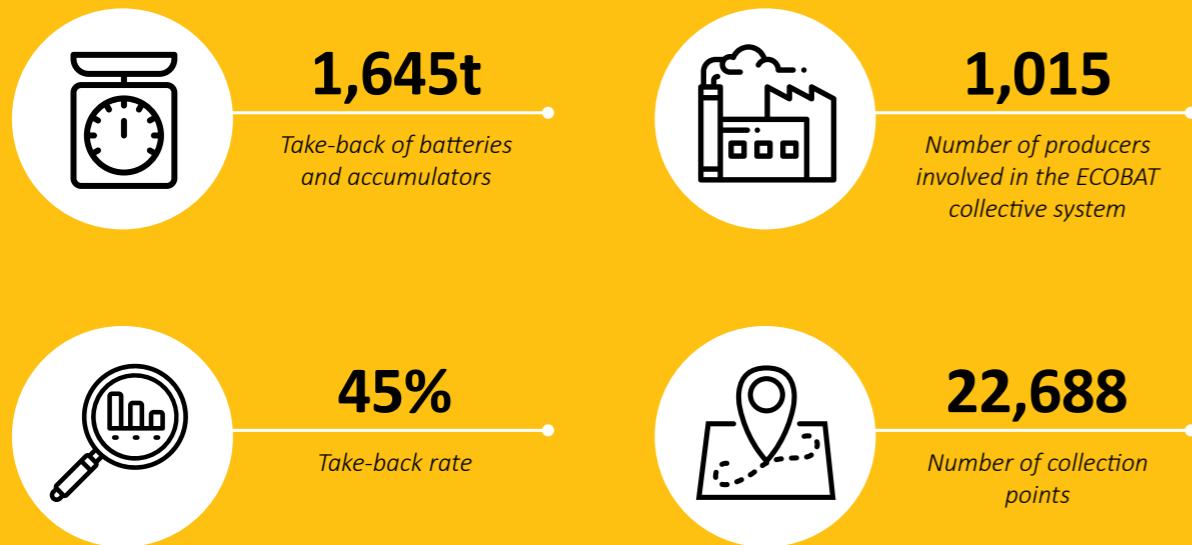


Annual Report ECOBAT 2018



“What helps achieve better results in battery collection? The alpha is cooperation, particularly with producers, vendors, municipalities, towns, schools and the media. And the omega is sound legislation.”



Editorial

For the third year in a row now, we have managed to meet the demanding limit of the European Union, which requires us to sort at least 45% of the batteries placed on the market, and I consider this a success. On the other hand, for the first time in the history of ECOBAT, there was a slight year-on-year decline in the total weight of batteries taken back. It seems that the citizens' willingness to sort this tiny part of municipal waste formed by consumer batteries has hit its limits. However, we do not want to accept such trend and we will remain intensively committed to awareness-raising and promotion.

In 2018, we could see for ourselves that improper handling of used lithium batteries may bring about high safety risks. That is why safe collection has become our top priority this year. We would highly appreciate a speedy discussion and adoption of the new Act on End-of-Life Products, which would regulate coordination of collective systems, industrial and lithium batteries, and other related issues.

I would like to use this opportunity to thank all of our clients and partners for their excellent cooperation. Thank you for your loyalty and continuous support.

RNDr. Petr Kratochvíl
Managing Director, ECOBAT s.r.o.



Company introduction

ECOBAT is a not-for-profit organization providing for the take-back and recycling of waste portable batteries in the Czech Republic since 2002. It was founded by six major battery producers. On 16 December, 2009, ECOBAT was granted an authorization to operate a collective take-back system for portable batteries and accumulators. It is a member of the European Association of National Collection systems for Batteries (Eucobat), which currently represents 19 major battery take-back systems from 16 European countries.

Members

Bateria Slaný CZ, s. r. o.
EMOS spol. s r. o. (GP)

Energizer Czech, spol. s r. o.
Panasonic Energy Europe N.V.

Spectrum Brands Czech spol. s r. o.
(VARTA)



Expert's word

In the Czech Republic, ECOBAT is an important “forerunner” of the emerging circular economy. In the take-back of portable batteries and their subsequent material recovery, it has showed that it can be economically efficient in converting waste to raw materials, including those in short supply. According to the established terminology of the European Union, these are “critical raw materials”.

However, certain preconditions need to be met to achieve this: these tasks must be managed by people with a clear vision and a strong drive. Fortunately, these preconditions were met 18 years ago when the very first voluntary agreement was concluded that launched establishment of a take-back system for portable batteries. Shortly thereafter, ECOBAT was created. The company participates in changing the waste management environment within the circular economy not only in the Czech Republic, but also internationally within the Eucobat association.

When I visit the ECOBAT facility in Kladno or any event relating to circular economy, I am always impressed by the excellence of ECOBAT's PR activities. To conclude, let me emphasize that without support of the general public, the whole principle of circular economy will continue to exist only in politicians' proclamations, and that would be desperately insufficient.

RNDr. Miloš Kužvart
Executive Director
Czech Circular Economy Association

New challenges

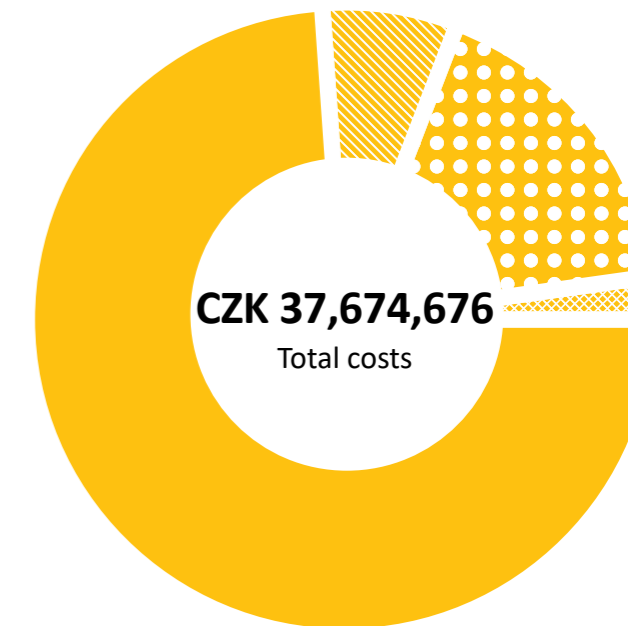
ECOBAT has started to focus on three important topics: circular economy, industrial battery recycling and safety.

Through the Czech Association of Portable Battery Producers, ECOBAT has become member of the Czech Circular Economy Association. Together with its other members, it actively supports reduction of unusable waste, rapid modernization of waste management in the Czech Republic and saving of primary sources of raw materials. As part of the update of the Czech Republic's Raw Materials Policy, ECOBAT drafted the chapter “Batteries and accumulators as a source of secondary raw materials” for the Ministry of Industry and Trade. To a maximum extent, it also supports reuse of accumulators wherever it is technically feasible and safe. ECOBAT has an increasingly important position in collection and

recycling of industrial batteries. It also started collecting lithium batteries from electric vehicles. The company implemented a new funding method for the collection and recycling of large industrial batteries. It became part of the pan-European EV Battery Entwork association, which provides services to the automotive industry. New types of batteries also increase safety requirements. For that reason, ECOBAT participated in the study “Legislative and practical safety-related solutions for the take-back of lithium batteries and accumulators”. The company prepared a methodology for due application of the international agreement ADR for road transportation of lithium batteries. And, last but not least, it introduces a new method of packing and storing of used batteries and accumulators.

Funding

In 2018, ECOBAT reported a profit of CZK 456,000, which accounts for 1.2 % of its total turnover. As in the previous years, the generated profit will not be distributed among the shareholders. The retained profit (CZK 6.7 million since the company's establishment) forms a back-up fund to cover any unexpected costs in the future.

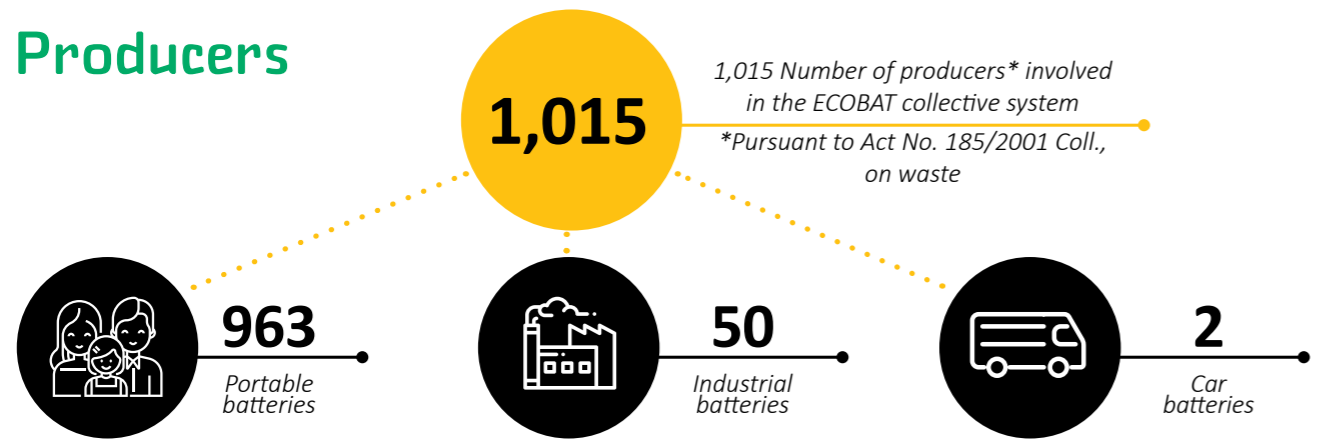


In 2018, ECOBAT spent **CZK 2,794,018** on education and publicity. Approx. one third of this amount was devoted to cooperation with regional, municipal and local authorities. The aim was to increase accessibility of collection points, support awareness-raising and boost motivation of the population in towns and villages to sort batteries.

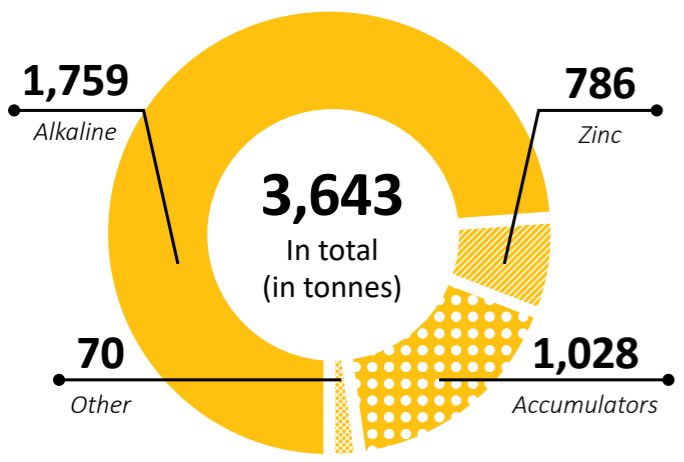
The cost of processing of 1kg of collected batteries amounted to CZK 22.91. The slight increase compared to the previous year (by CZK 1) is mainly due to more stringent safety requirements concerning collection and the one-off reorganization of the company's Operations Department.

For 11 years, ECOBAT has co-financed the education recycling programme for schools entitled **Recycle with Fun to Clean up the World.**

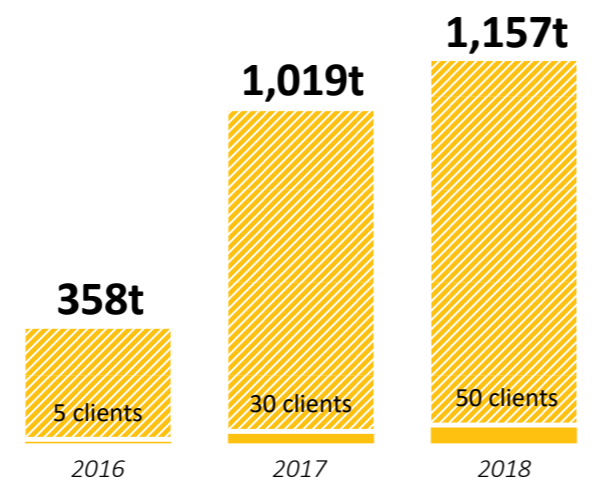
Producers



Portable batteries placed on the market

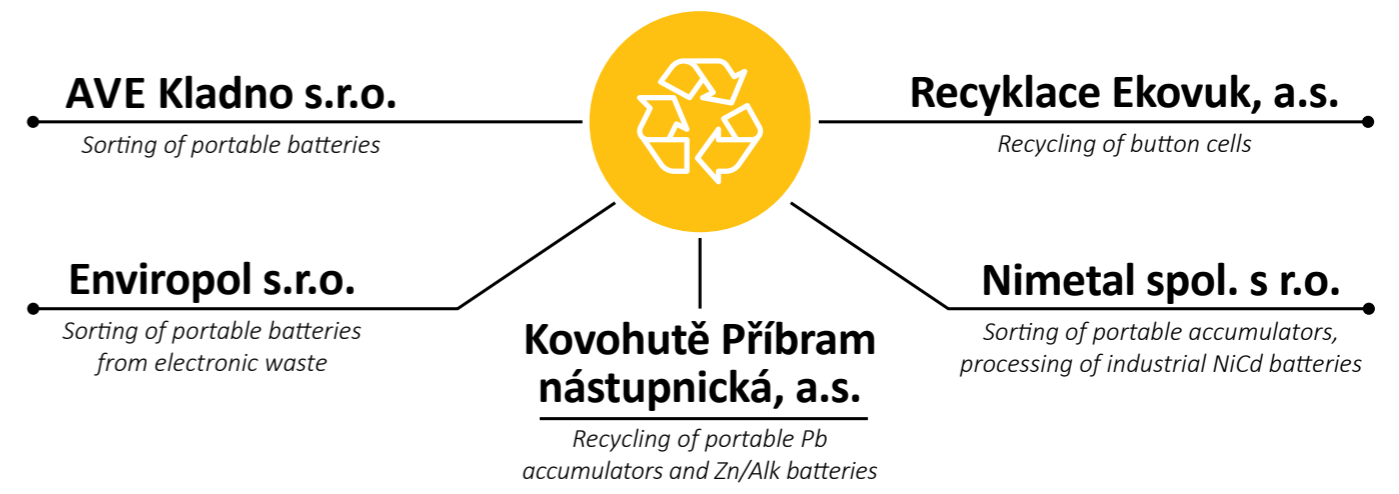


Industrial batteries placed on the market

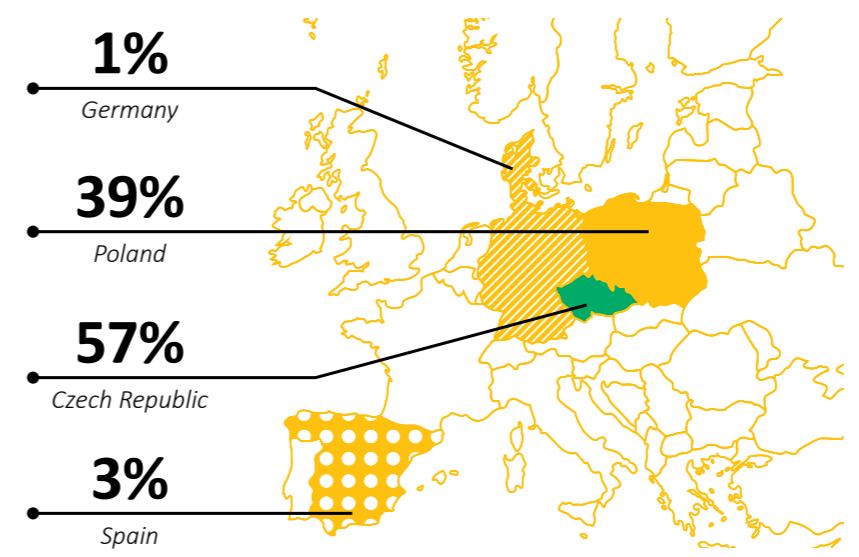


The number of industrial battery producers using ECOBAT's services has increased tenfold over the past 3 years. The most represented are producers of Pb accumulators for industrial and professional use (26), e-mobility companies (14) and producers from the photovoltaics segment (4).

Czech partners in battery sorting and recycling



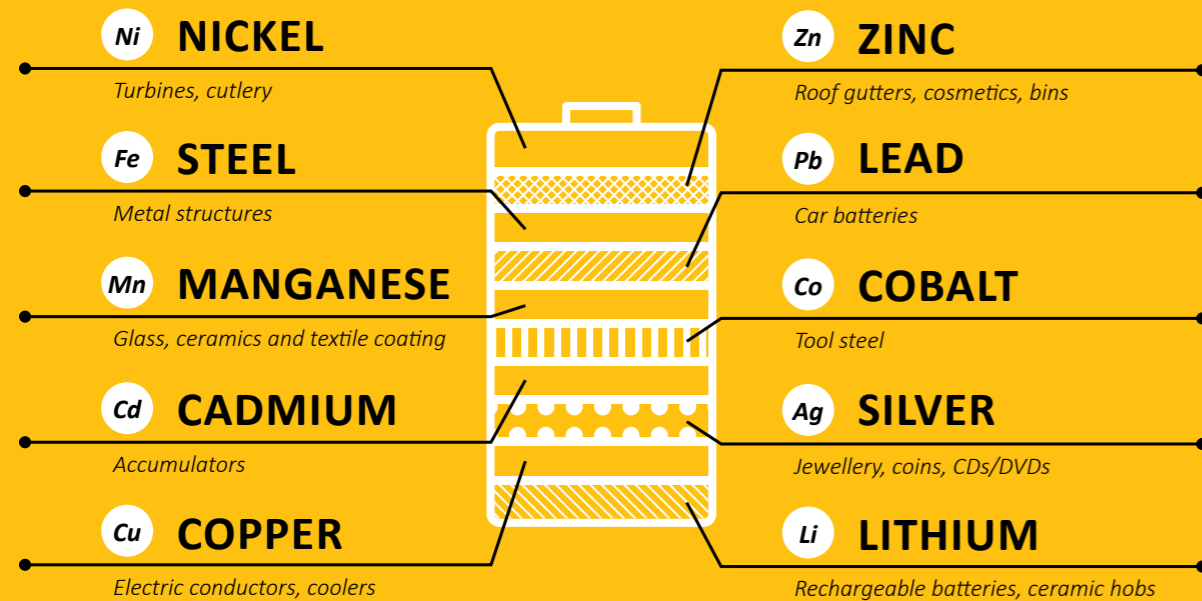
Countries where batteries are processed



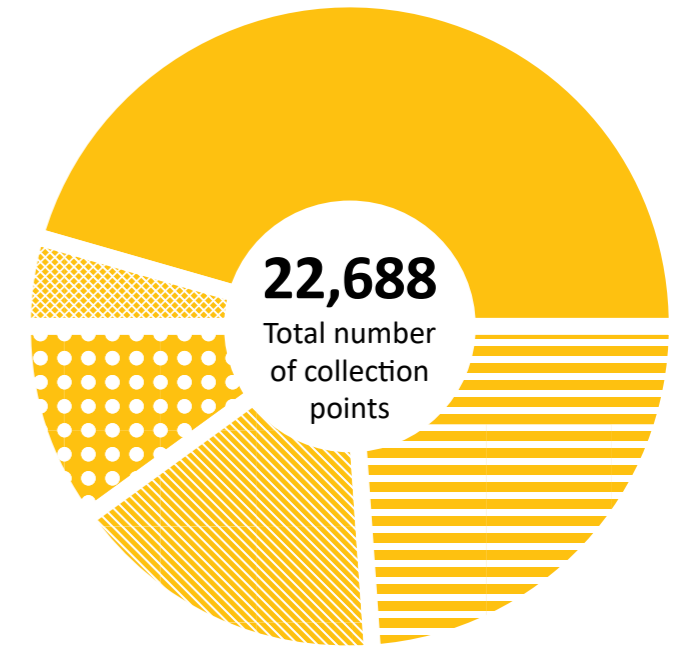
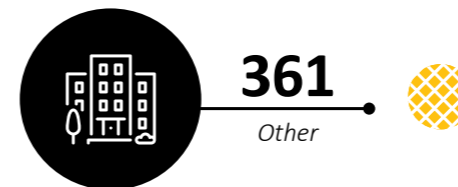
We are able to efficiently process most of the collected batteries **directly in the Czech Republic**. However, due to insufficient amount of raw materials, some batteries must be exported to other European countries for processing. This ensures higher economic efficiency of recycling.

In 2018, **only 1.5%** of the collected batteries ended up in an incinerator for being unidentifiable or unrecyclable.

“ Owing to recycling, we are able to get 65kg of metallic raw materials from 100kg of batteries. ”



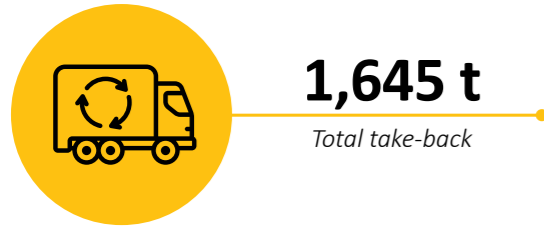
Collection points



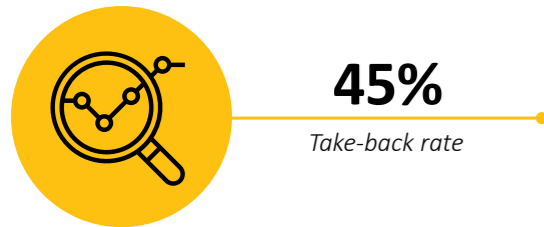
Do you need to find the closest battery collection point? You can easily find it using the search engine on mapa.ecobat.cz. Has the location of a collection container changed or has it been removed from your neighbourhood? The interactive map also allows you to record such information. Please help us keep it up-to-date.

Do you also want to have a collection container for used batteries in your organization or company? Contact us at ecobat@ecobat.cz

Take-back in 2018



What is the take-back rate? It represents the ratio of weight of taken-back batteries to the weight of batteries placed on the market. For the purpose of calculation, the weight of collected batteries is a result per specific calendar year, the weight of batteries placed on the market is the average weight per last three years.



For the third year in a row now, the Czech Republic has managed to meet the demanding limit of the European Union, which requires us to sort at least 45% of the batteries put into circulation. This limit is met by fewer than half of the Member States.

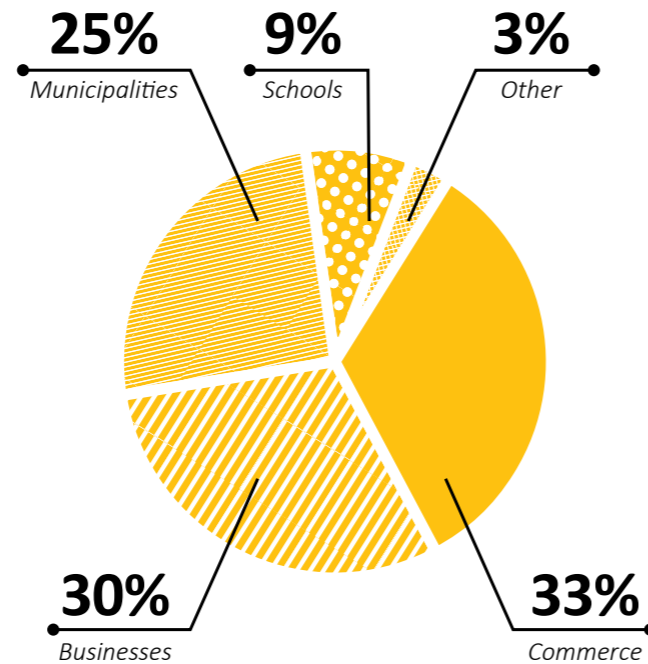


Imagine that we would put **all inhabitants of Kutná Hora** on a scale. Their weight would approximately correspond to the weight of the batteries returned for recycling in the Czech Republic in 2018 (20,536 inhabitants x 80kg per person for simplicity).

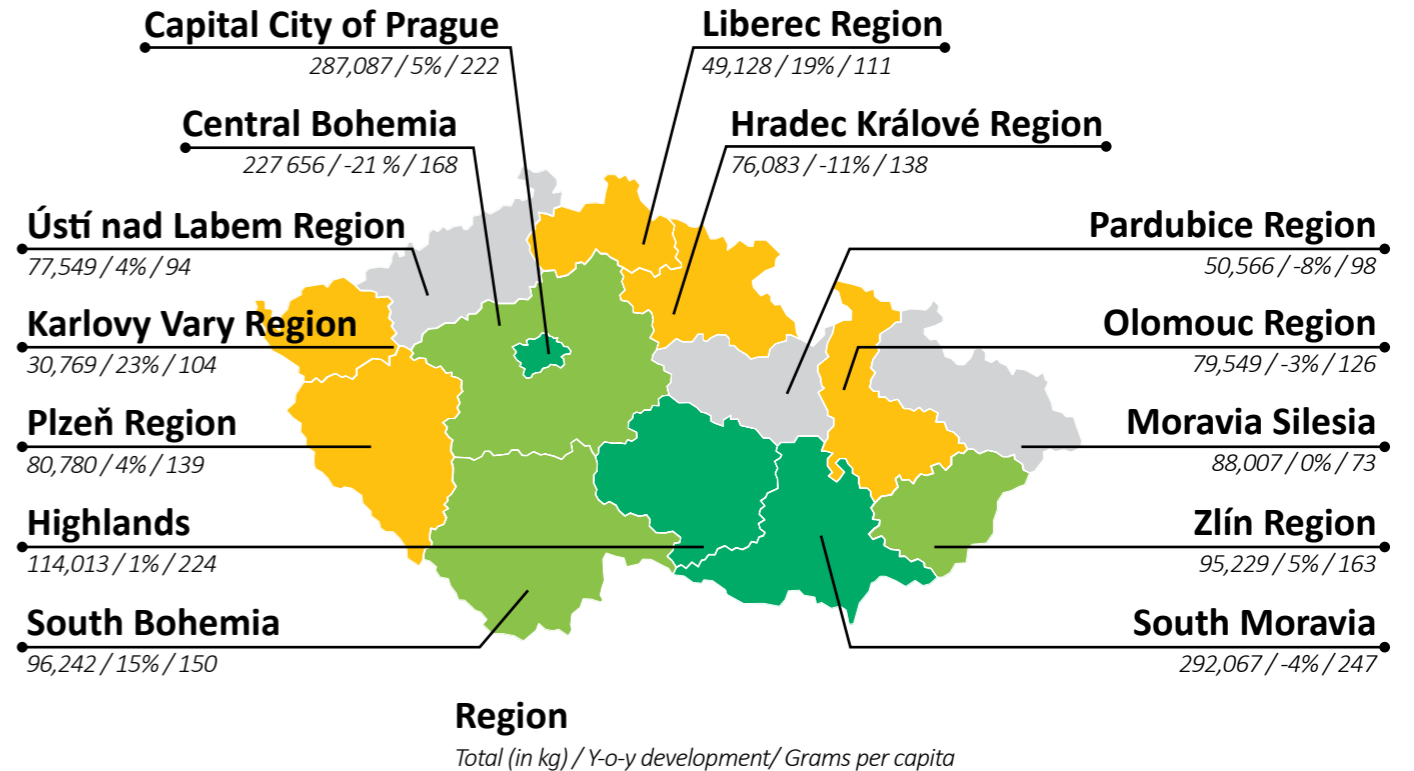


We would need at least **66 trucks** to load all the batteries sorted out in the Czech Republic in 2018. If we park the trucks one after another, total length of the convoy would be approximately 1.32km.

Collection channels



Take-back per regions in 2018



In 2018, the whole of the Czech Republic collected **1,645 tonnes** of batteries. Every inhabitant of the Czech Republic sorted 155 grams of batteries on the average, which corresponds to approx. 6 mignon (AA-sized) batteries.

The best sorting results were achieved by inhabitants of the **South Moravian** region with **247 grams** per capita, the worst results in Moravia-Silesia with mere 73 grams per capita.

“ *ECOBAT spent over 7% of its budget on education and publicity concerning battery collection and recycling.* ”

Battery Mania



Recycling Tour



Recycle with Fun



Safety



In the Highlands region, we initiated the Battery Mania

The BATTERY MANIA project in the Highlands region combined battery sorting with attractive awareness-raising, contest among municipalities, and charitable efforts. The project organizers, i.e. the Highlands region and the ECOBAT not-for-profit organization, committed to donate CZK 10 to charitable projects in the region for each kilogram of batteries returned during the project in the participating municipalities (i.e. municipal authorities, collection yards, and schools).

And the result? There were 20 participants from among towns that sorted out 70% more batteries compared to the same period in the last year during the campaign. Four charitable projects received CZK 105,505. The contest winner was the Polná municipal authority and the largest portion of the financial contribution went to the “HAND OVER A BATTERY FOR ADÉLKA” project whose purpose was to support Adélka, a schoolgirl living in Polná who suffers from autism. And because setting a good example is always a good thing, the BATTERY MANIA project will run in several other regions in the years to come.



Recycling Tour crossed the Czech Republic



The importance of battery sorting and recycling was emphasized by a three-member team of cyclists comprising two representatives of ECOBAT and one expert journalist who crossed the Czech Republic in June from East to West. They set for a journey from Frenštát pod Radhoštěm to Cheb on e-bikes. Quite symbolically, they promoted battery recycling on battery-powered bikes. In the course of their “Recycling Tour” contact campaign, they visited 24 towns in 10 days and rode 907 kilometres. They met people on squares and discussed the importance of recycling with town representatives. The meetings were often attended by children and teachers from kindergartens, elementary and secondary schools. Many people actively participated in the project. Some of them by bringing the team members used batteries for recycling, some of them by riding a part of the journey on a bike. In two stages, the Recycling Tour was joined by representatives of organizations supporting disabled athletes – namely Sport 4 Help and Journey to a Dream.



Recycle with Fun helps educate children starting from a kindergarten

For 11 years now, ECOBAT has supported the Recycle with Fun to Clean Up the World program that teaches children from kindergartens, elementary and secondary schools how to sort batteries and small appliances. At the same time, it teaches them how to reduce waste. ECOBAT also co-organized a three-month collection campaign held in autumn. During the campaign, schools returned for recycling nearly 60 tonnes of used batteries. When carrying out the educational task "Create a Battery Eating Monster", pupils and students creatively developed battery collection containers they could use at school or at home to collect batteries with their parents. In total, 560 schools took part in the project and 694 completed tasks were handed in.

Batteries? Sure, we recycle!



ECOBAT has been continuously and intensively convincing the public that that used batteries must be sorted out and recycled. Over 7% of the company's total turnover is spent on promotion and awareness-raising projects. It also helps increase the amount of sorted out batteries and the share of people who sort them on a regular basis. According to the survey conducted in August 2018, as many as 75% of Czechs always or almost always return waste batteries and accumulators for recycling (source: representative survey for ECOBAT on the IPSOS Instant Research platform).

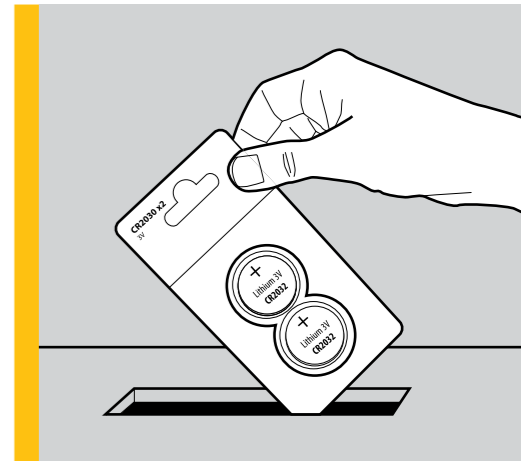
The fan base of the ECOCHEESE facebook profile has also increased. In the second half of 2018, we managed to win a crowd of 5,000+ followers. Our posts appealed to 180,000+ readers. They focused on latest developments in battery collection, presentation of good practices, increasing visibility of ECOBAT's and partners' activities, and, of course, were used to promote the ECO-CHEESE box for household storage of batteries.

In 2018, ECOBAT joined the European Battery Recycling Week project held under the auspices of the Eucobat international association.

We increase safety standards for handling lithium batteries

There are more and more electronic appliances comprising state-of-the-art lithium batteries. Nevertheless, when handled in a wrong manner, they can be potentially risky. Disturbing incidents or, in worse cases, ignition or small explosions can happen. ECOBAT is very particular when it comes to prevention and that is why it increases its safety standards.

In December 2018, the Czech Association of Producers of Portable Batteries supported by the Ministry of the Environment prepared the study "Legislative and practical safety-related solutions for the take-back and separate collection of lithium batteries and accumulators". The study is now consistently observed by ECOBAT, having provided specific methodology for road transport of all used batteries in accordance with ADR (international agreement for road transportation of dangerous goods). ECOBAT has launched 10 rules of safe storage of used batteries at all sites featuring larger quantities of lithium batteries. To those sites ECOBAT supplies vermiculite, a special insulation material that protects stored batteries against a short circuit or mechanical damage. Particular attention is paid to safe collection of used batteries in schools. With the aim of preventing the storage of certain types of risky batteries in schools, ECOBAT has introduced a lithium battery monitoring system. ECOBAT has also published a special warning concerning proper handling of expired batteries which must also be kept in their original packaging.



We warn against battery ingestion risks; we call for prevention



Cases of a child ingesting a battery are not exceptional in the Czech Republic. In eight of ten hospitals that took part in a survey initiated by ECOBAT, paediatricians confirmed that they had had patients ingesting a button battery in their ward. The biggest risk of battery ingestion exists in toddlers. Seventy-seven per cent of all cases were reported in children below four years of age. Health risks related to battery ingestion are severe. Therefore, ECOBAT used the survey, cooperation with the media and a FB presentation to urge parents to ensure that batteries are always kept out of the reach of small children. Suitable prevention information and information about the procedure in case of suspected child battery ingestion can be found at <http://buttonbatterysafety.com/cs/>



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