



Introduction to the BIXIO sharing economy platform

Budapest, April 2022



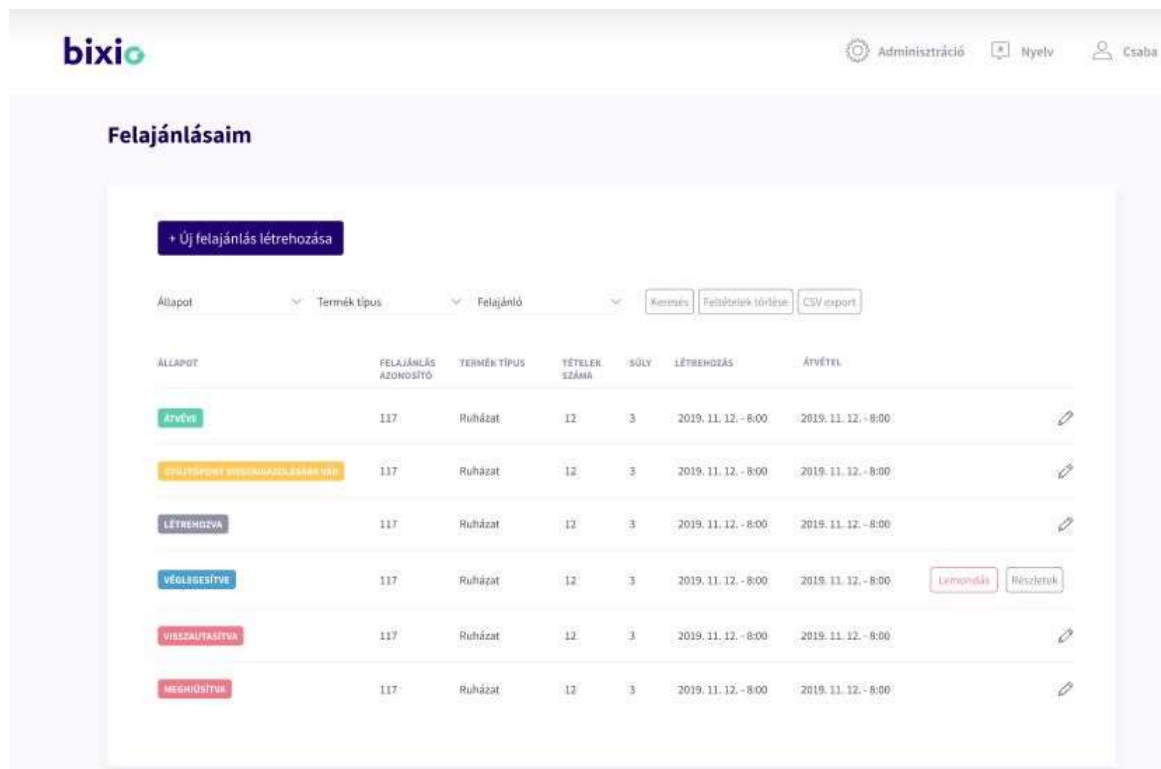
What is BIXIO?

Food banks and other kinds of sharing economy ventures (e.g. NGOs, consumer communities) are mushrooming. They constitute one key pillar of the new economy, they promote responsible business models, and they help mitigate consumption related waste, fissures within societies and ecological footprint. They gain widespread recognition and build donor communities, sometimes through social media.

But they usually lack adequate IT support to reach donors and administer their everyday operations. Available tools are not adapted to their special needs, and they usually lack the financial and human resources too to deploy or develop such solutions. IT tools are mostly developed in-house, that - in turn - need an important upfront investment, drawing away funds and attention from the core business. The operation is not cost effective, and highly dependent on the (mostly small or part time) IT team, making these tools difficult to maintain in the long term.

BIXIO covers the gap. BIXIO is a cloud based, cost effective IT platform that offers professional, secure operations to collect goods from donors, administer stocks and logistics, and provide access to destination side users. BIXIO may host any number of service providers simultaneously (while each of them uses their own preferred setup), thus expenses can also be divided between them. BIXIO is modular, can be introduced gradually and adapted to each operational model. BIXIO is tailor-made to serve the operational models of these ventures. An in-built feature of the BIXIO software is a route optimisation algorithm developed by the Department of Applied Mathematics at Pázmány Péter University, Budapest. The BIXIO algorithm permits to optimise collection of goods from randomly appearing donations, each having a particular size, weight, pickup time interval, and various attributes (cooling needs, fragility, etc.), in a given geographic area. Route optimisation is based on Google Maps route and traffic data, time intervals and time/financial costs associated to a pickup point, and time intervals for delivery points (storage facilities). As the algorithm optimises the route planning of collection of goods, it can save 10-15% for the carrier taking into account the above parameters.

BIXIO could be personalised to the image and services of each service provider, embedded into their website. They can use their own brand, data, network of partners, operation processes and business models, external partners or subcontractors.



Using the BIXIO platform reduces the costs of these sharing economy ventures significantly and has considerable environmental impacts too. BIXIO also enables easy and fast introduction of new services to the market.

The project has its prototype ready and it is being piloted by a Budapest based NGO. The project enhances circular economy helping NGOs like food banks and start-ups to optimize operational quality and so, quantity of food waste decreases.

BIXIO for food banks and NGOs

The BIXIO platform can be used by food banks, non-profit organisations, sharing economy players, food communities to facilitate the administration, collection and recycling of food products and food waste. BIXIO is the ultimate web-based tool to collect and distribute food products and reusable food waste, making collection and administration as efficient as possible. BIXIO can support most business and operational models used in the industry and permits food banks to build up their own personalised solution.

BIXIO can help to reach and extend their donation base, improve operational efficiency and decrease operating costs (both in terms of used up workhours and logistic costs), while having more control on the processes involved.

Go to market time decreases, risk management and administration constraints become better manageable.



BIXIO is a system planned specifically for the needs and use of food banks and charitable ventures dealing with food and/or food waste; among others they will be able to use the software to:

- **Provide a website and mobile platform for donors to register and submit donations**
 - Enable donors to submit and categorise goods
 - Have donors to use the mobile app for better user experience
- **Provide a web platform for receivers to view donated products and submit orders and pre-orders**
 - Have receivers to place pre-orders. In such cases BIXIO's matching algorithms will allocate donations to receivers' pre-orders according to the priorities set by the food bank
- **Support the high-level tracking and administration of donated items**
 - Better manage administration constraints
- **Have logistics partners (if any) direct access to the BIXIO platform, with personalised screens for couriers and server to server data exchange facilities**
 - Administer the processes of donation delivery (donor to storage facilities, storage to receivers), interfaces with logistics partners
 - Manage reporting, allow advanced statistics and data analysis tools and prepare accounting documents. BIXIO produces the reports that will be used by accounting and billing systems
- **Provide route optimization services:** BIXIO includes a route optimisation algorithm that may be used by logistics partners or in-house couriers. Route optimisation is proprietary to the collection model used in BIXIO.
- **Allow in-depth parameterisation of services, partners, business and settlement models to adjust the system perfectly to specific needs**
 - Configure the categorisation of products. Attribute types can be defined by the food bank.
 - Use proxy collection points for donors to leave their donations (if needed)

As a result, food banks can build up their personalised solutions using the BIXIO platform and depending on their specific needs. BIXIO can also help them to reach and extend their donation base with an upgraded user experience, improve operational efficiency and decrease operating costs - saving work-hours - while having more control on the processes involved.

How it works

Service providers specify what kind of food items they manage, what settlement model they use with various parties, what logistic channels are used, how products are administered etc. All these are configurable at the start of operations and can be changed later.

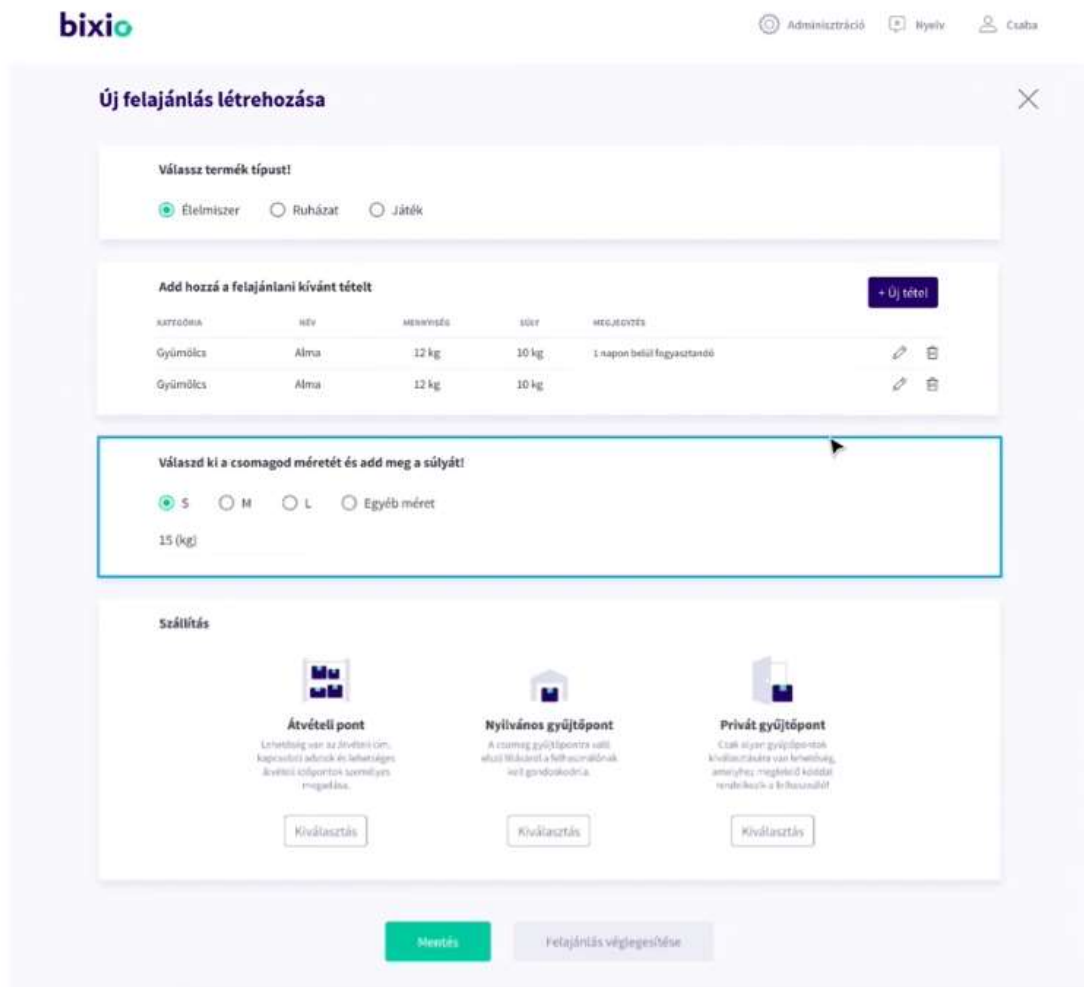


Start of services

- The food bank configures the BIXIO platform to its particular operation processes, including products, partners, geographical reach, accounting and documentation processes, data exchange with local systems, branding and communication to customers.
- Donors, customers and partners access BIXIO platform branded to the service provider's image. BIXIO is usually integrated into the website of the food bank.
- No software installation is needed. BIXIO may be integrated to legacy systems.

Donations

- Donors register online to the services through BIXIO web or the BIXIO mobile applet.
- They place donations, indicating the type and quantity of products they donate, whether it needs cooling, the expiration date, information specific to its content (example: type of meat, vegetarian, gluten free, lactose free, paleo, kosher, hallal, etc - these categories are configured by the service provider). The donor specifies the place and time intervals the donation can be collected (a collection proxy may be selected). BIXIO confirms receipt immediately.
- The service provider confirms the takeover of the donation (based on probable need, pre-orders, estimate logistic costs, etc). The donation is then confirmed.
- The service provider assigns a price tag to every donation (if applicable). The donations then become accessible to receivers.
- Receivers select donations from a list and place orders as in an online shop cart. Payment (if applicable) is immediate through VPOS or billed at predefined dates.
- Receivers may place pre-orders. In such cases BIXIO's matching algorithms will allocate donations to receivers' pre-orders according to the priorities set by the service provider.



Új felajánlás létrehozása

Válassz termék típust!

Ételiszer Ruházat Játék

Add hozzá a felajánlani kívánt tételt

KATEGÓRIA	NÉV	MENNYISÉG	SÚR	MEGJEGYZÉS		
Gyümölcs	Alma	12 kg	10 kg	1 napon belül fogyasztandó		
Gyümölcs	Alma	12 kg	10 kg			

Válassz ki a csomagod méretét és add meg a súlyát!

S M L Egyéb méret

15 (kg)

Szállítás

Átvételi pont
Lehetőleg van az átvételi cím, kapacitási adatok és helyszíni átvételi központok személyes megjelölése.

Kiválasztás

Nyilvános gyűjtőpont
A csomag gyűjtőpontra való elvittől kezdve a felhasználóknak kell gondoskodnia.

Kiválasztás

Privát gyűjtőpont
Csak olyan gyűjtőpontok kiválasztására van lehetőség, amelyek megegyeznek a felhasználói rendeléssel a felhasználóval!

Kiválasztás

Mentés Felajánlás véglegesítése

Collection of donations, logistics, quality assurance

- Logistics partners receive the list of donations and addresses, including particular attributes (size, weight, need for cooling, collection timeframes etc) from individual donor addresses or proxy collection points).
- BIXIO includes a route optimisation algorithm that may be used by logistics partners. Route optimisation is proprietary to the collection model used in BIXIO.
- Courier personnel will register the collection of goods. The content of the collected goods is matched at package level.
- Donated goods are shipped to storage points, receipt is registered in BIXIO. BIXIO supports the high-level tracking of donation collection.
- Quality assurance includes the control of collected goods and matching with the attributes given by the donors. This may be done at receipt at the donors address by the courier, at receipt at the storage point, or separately at the storage point.
- Donors are evaluated based on the availability of donations at the designated address and timeframe, and how precisely they gave the attributes for the goods donated.

Átvételi pont

Megnevezés (pl.: Saját telephely)

Kapcsolattartó neve

Telefonszám

Megjegyzés

Átvételi pont címe

Irányítószám Település

Utca, házzszám, emelet, ajtó

Lehetséges átvételi időpontok

Előző hét 2019. December 6. - 12. Következő hét

DECEMBER 6.	DECEMBER 7.	DECEMBER 8.	DECEMBER 9.	DECEMBER 10.	DECEMBER 11.	DECEMBER 12.
06:00	06:00	06:00	06:00	06:00	06:00	06:00
07:00	07:00	07:00	07:00	07:00	07:00	07:00
08:00	08:00	08:00	08:00	08:00	08:00	08:00
09:00	09:00	09:00	09:00	09:00	09:00	09:00
10:00	10:00	10:00	10:00	10:00	10:00	10:00
11:00	11:00	11:00	11:00	11:00	11:00	11:00
12:00	12:00	12:00	12:00	12:00	12:00	12:00
13:00	13:00	13:00	13:00	13:00	13:00	13:00

Pricing, Settlement, Accounting, Documentation

- BIXIO administrators will define a price for each donation (if applicable). Discounts may be applied for pre-selected donations (example when expiration date is close, the price of products selected may be discounted in a one-step action). BIXIO may use an individual discount for selected receivers based on their contract with the service provider.
- BIXIO produces the reports that will be used by accounting and billing systems.
- BIXIO produces the address list for logistics partners and receives confirmations at different stages of the collection and delivery process.
- Settlement (if applicable) between service providers and receivers is done either immediately with VPOS or through bills issued at predefined time intervals.
- Settlement with logistics partners is done based on detailed reports issued by the system.
- Settlement with donors (i.e. business models where donors are paid) will be implemented in the next version of BIXIO.

Scoring, Reporting

- BIXIO may produce a variety of reports.
- BIXIO may score the performance of donors, receivers and logistics partners.

Felajánlásaim

+ Új felajánlás létrehozása

Állapot Termék típus Felajánló Keresés

ÁLLAPOT	FELAJÁNLÁS AZONOSÍTÓ	TERMÉK TÍPUS	TÉTELEK SZÁMA	SÚLY	LÉTREHOZÁS	ÁTVÉTEL	
• Átvéve	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	
• Gyűjtőpont visszaigazolására vár	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	
• Létrehozva	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	<input type="button" value="Lemondás"/>
• Véglegesítve	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	
• Visszaautasítva	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	
• Meghíúsítva	117	Ruházat	12	3	2019. 11. 12. - 8:00	2019. 11. 12. - 8:00	

Sikeres véglegesítés és mentés!
Adatokat sikeresen mentettél!

Business models

- BIXIO may support a variety of business and operation models.
- With parameterisation, it may confirm donations / collections based on existing orders only (pre-orders placed) or taking into account collection costs estimated or given by logistics partners.
- BIXIO can support donations or collection orders placed stochastically, in a predefined geographical area.
- BIXIO includes a categorisation of products that can be configured by the service provider. Attribute types may be defined by product category.
- Business and pricing models can be parameterised by each service provider independently according to these attributes.

Research & Development

BIXIO includes a number of mathematical models and optimisation algorithms to facilitate operations.

- Logistics: Route optimisation algorithm to collect donations appearing randomly with one or several logistic fleet. Donations can have various attributes (content, weight, need, fragility, etc.)



- Matching optimisation: BIXIO's matching algorithms allocate donations to receivers' pre-orders according to the priorities set by the food bank and receivers (i.e. a large-volume donation can be split towards various receivers)

Alternative use of BIXIO

Apart from the field of recycling food, there are alternative markets of BIXIO. The circular economy is an ever-growing concept in the EU too, especially as the effects of climate change is more and more obvious for everyone. Recycling resources is one way to fight climate change, but unfortunately, the world is not making much progress here: according to Circle Economy (<https://www.circularity-gap.world/>) we are only recycling 8.6% of our resources. The re-use of electronic waste (e-waste) is especially a hot topic within the EU, partly because the countries the EU used to export its waste (mainly China and African countries) no longer accept e-waste from Europe.

The over-consumption of clothes is also a huge problem. The worst in Europe in this respect is Italy, where more than 465,000 tons of textile waste appears each year and only about 10% is recycled. About 25% of the non-recycled clothe-waste was incinerated, while more than half of it ended up in landfill, taking up space for years to come and allowing greenhouse gases and chemicals to filter into surrounding air and soil. The recycling of textile-waste will soon be an important topic within the EU too and BIXIO is also able to handle this as well.

Beside these use cases many for-profits and start-ups use similar sharing-economy based models (e.g. consumer communities) to BIXIO's one, so they are also potential users of our platform. In the days of smart cities, city councils may also be catalysts of the circular economy through partnerships: collecting and connecting NGOs within the city, each of them being responsible for a type of good (food leftover/waste, clothes, e-waste, furniture, households, etc.), these cities could build up a city-wide service to its more and more environment conscious citizens where recycling could reach a critical mass. Making these NGOs use a software like BIXIO would require these cities a strong communicational role in the service.

About the company

BIXIO Ltd. was founded in 2017 as a project company to develop the BIXIO food waste collection platform. We believe that the mushrooming waste management and product redistribution communities and platforms, usually based on sharing economy models will, of course, need adequate IT support to reach donors and administer their operations.

Today most service providers develop their own software tools, a process that is not effective, raises competence and sustainability issues within the organisation, draws funds and attention from the core business, and difficult to maintain on the long term. Using the BIXIO platform reduces the costs significantly and enables easy and fast introduction of new services to the market.

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