

Bioceltix

We are changing therapy standards in veterinary science

by developing innovative biopharmaceuticals based on stem cells.

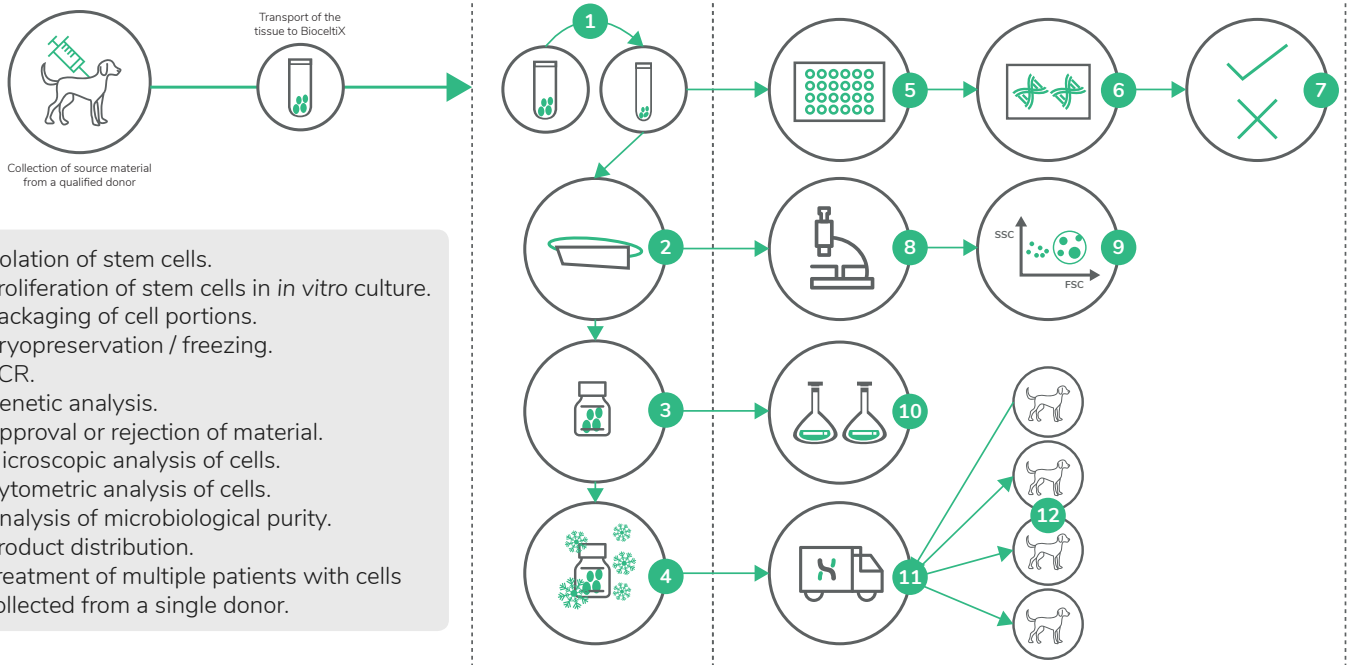
Technology

Our technology for the procurement and *in vitro* cultivation of allogeneic stem cells (one donor – many recipients), as well as advanced procedures of quality control, both ensure safe use of our medicines by eliminating the risk of rejection by the recipient immune system. Furthermore, the risk of neoplastic transformations affecting stem cells intended for clinical purposes has also been eliminated, owing to the implementation of genetic research being so far unprecedented in the veterinary science.

We are the first company in Europe:

- to launch an isolated technology line for the production of animal allogeneic stem cells under the pharmaceutical standard (cGMP),
- planning to subject veterinary stem cell-based biopharmaceuticals to clinical trials performed under the surveillance of the regulator of the pharmaceutical market,
- providing ultimate safety with respect to its biopharmaceuticals through unprecedented quality control implemented in the veterinary science to date,
- to set standards for the authorisation of veterinary biopharmaceuticals using stem cells as an active substance,
- planning to have stem cell-based biopharmaceuticals authorised by the European Medicines Agency.

Bioceltix is implementing an animal-safe technology for the therapeutic use of allogeneic stem cells (one donor – many recipients), characterised by business scalability, as the first company in Europe.



Products by Bioceltix make use of the anti-inflammatory and analgesic properties of mesenchymal stem cells. They constitute a modern alternative to the symptomatic pharmacological treatment that is mostly based on conventional (chemical) analgesics, as well as non-steroidal and steroidal anti-inflammatory drugs whose long-term use may entail numerous side effects. Contrary to conventional chemical drugs, biopharmaceuticals developed by Bioceltix have a long-term action based on natural processes occurring within the organism, due to which they do not induce any side effects. Additionally, they are capable of actively supporting the reconstruction of tissues damaged by a disease, demonstrating strong proregenerative action.






	Bioceltix biopharmaceuticals	Pre-existing stem-cell therapies	Conventional (chemical) therapies
Technology	Allogeneic stem cells (one donor – many recipients)	Autologous stem cells (both the donor and recipient being the same individual)	Chemical synthesis
Origin	Natural	Natural	Artificial
Safety confirmed by clinical trials	Yes	No	Yes
Purity and quality control	Yes	No	Yes
Genetic control	Yes	No	N/A
Authorisation by the regulator of the pharmaceutical market	Yes	No	Yes
Repeatability (serial production)	Yes	No	Yes
Means of operation	Symptomatic and long-term causal, the latter one – through inducing natural regenerative processes	No data*	Symptomatic
Analgesic effect	Yes	No data*	Yes
Anti-inflammatory effect	Yes	No data*	Yes
Proregenerative effect	Yes	No data*	No
Side effects	No	No data*	If long-term therapy has been applied – numerous
Business model	Distribution of a biopharmaceutical	Medical procedure	Distribution of a chemical drug
Sale scalability	Yes	No	Yes
Long-term storage	Yes	No	Yes

*) It is not possible to precisely specify the means of operation due to the lack of standardisation and repeatability.


Products


Both the portfolio of original products by Bioceltix and the R&D works it conducts reflect global trends which will considerably facilitate the implementation of the business model it has adopted. The development strategy of world's largest veterinary companies

includes conducting research on new medicines mostly with regard to the field of diseases affecting the locomotor system (diseases of the joints), autoimmune diseases (allergies, atopic dermatitis) and tumours.


Target group	Code	Therapeutic area	Epidemiology	Planned initiation of clinical trials
	BCX- CM-J	Degenerative changes of joints	20% of all dogs – nearly 13 million patients in the EU	October of 2019
	BCX- CM-S	Generalised osteoarthritis, autoimmune diseases	Diversified, depending on etiology and diagnosis	October of 2019
	BCX-CM-AD	Atopic dermatitis	15% of all dogs – nearly 10 million patients in the EU	January of 2020
	BCX- EM	Tendon damage, complex bone fractures	20% of all sporting, recreational and company horses – more than 0.4 million of patients in the EU	May of 2020
	BCX- FM	Chronic feline gingivostomatitis	5% of all cats – nearly 4 million of patients in the EU	November of 2020


The portfolio of our products will be systematically expanded. We mostly create the company's value through the development of innovative veterinary products within the framework of own R&D effort that currently encompasses the following, among others:

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the development of a rapid test strip for the diagnosis of arthritis in dogs, based on a caninised monoclonal antibody and intended for unassisted use by a veterinary doctor – currently, the diagnostics is ambiguous and complex, being based on interviews with the pet owner, roentgenography and MRI that are both expensive and strenuous for patients,
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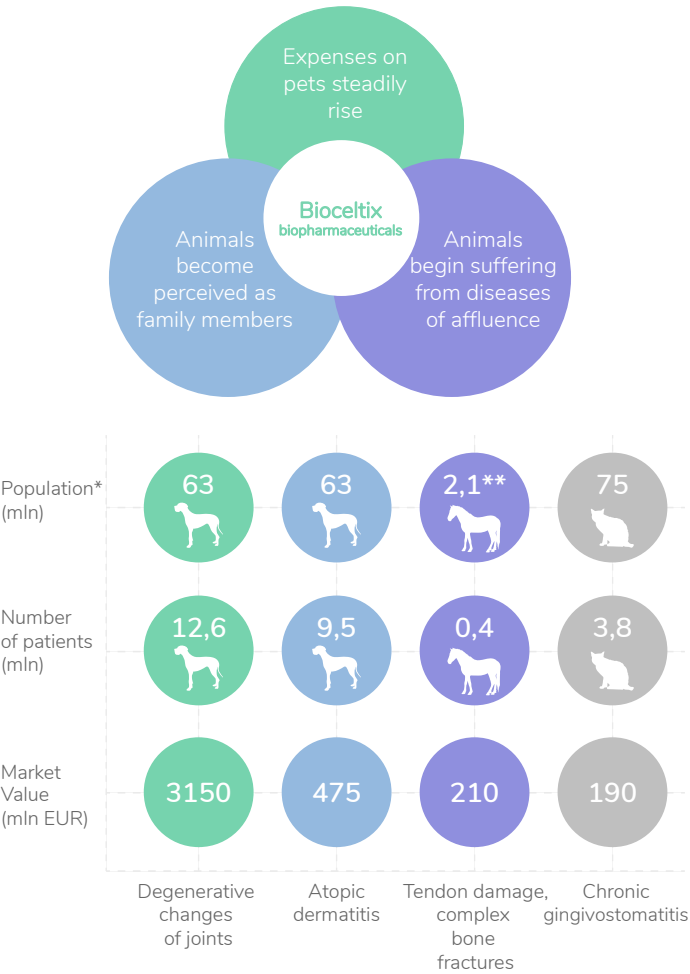
the development of a new drug for canine lymphoma and leukemia, as based on a conjugate of a caninised monoclonal antibody with a cytostatic agent being applied in targeted therapy where the administered medicine will only be toxic for cancerous cells, contrary to conventional and systemic administration of cytostatics that are also toxic for healthy cells,

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the development of technology for the isolation of stem cells from the foetal tissue (the placenta, umbilical cord) of dogs and horses – such cells are more of a primary nature, demonstrating a higher proliferation potential, being identical in terms of their biological age, exemplifying low immunogenicity and a natural capability of being differentiated into neurons,
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the development of technology for the lyophilisation of stem cells in a manner making it possible for enlivening them before they are administered to the patient – the new technology will allow for storing stem cells in conditions that do not require deep freezing, extending their shelf-life and producing new forms of medicines.

Market



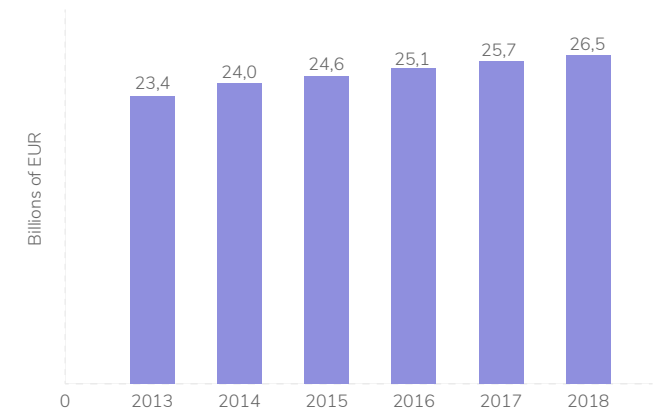
Source: own elaboration based on FEDIAF data and scientific resources.

* All data refer to the European Union

** Light, recreational and accompanying horses included only

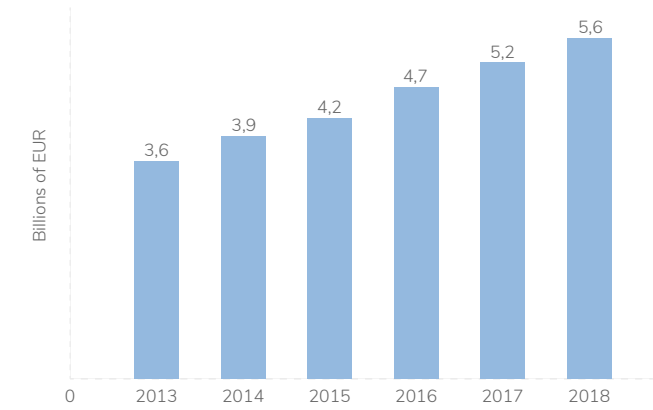


Market value of pet care in Western Europe from 2013 to 2018



Source: Euromonitor.

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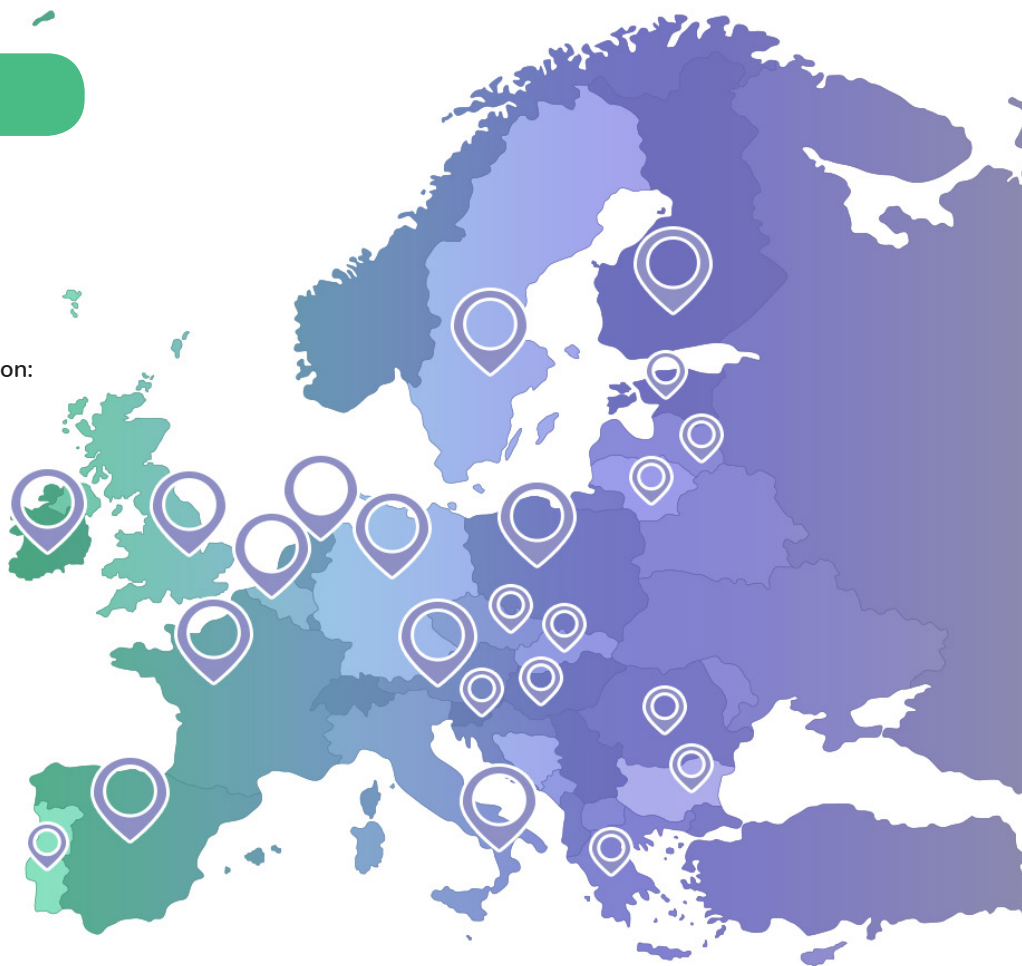
Source: Euromonitor.



Business model

The business model of Bioceltix is based on:

- conducting innovative R&D projects,
- cooperation with renowned scientific units,
- acquisition of intellectual property under the *in-licensing* model,
- sale of rights to developed products under the *out-licensing* model,
- sale of products to veterinary clinics via distributors operating in particular countries.



Team

The Bioceltix team consists of scientists working on innovative solutions in biotechnology and veterinary. We are supported by authorities in our Scientific Board, leading research units and experts in the field of commercialization of scientific research. The company is managed by people with both extensive scientific knowledge as well as broad business experience.



Łukasz Bzdziun
President of the Board

Biotechnologist and molecular biologist. Previously an intern at the prestigious Medical College of Georgia (Center of Biotechnology and Genomic Medicine) in the USA. He has graduated in "Management of Research Studies and Development Works". He worked at the Ludwik Hirszfeld Institute of Immunology and Experimental Therapy of the Polish Academy of Sciences and Wrocław Research Centre EIT+. The founder of Bioceltix.



Paweł Wielgus
Member of the Board

Biotechnologist, PhD in chemical sciences, financial analyst and investor. He has many years of experience in management, establishing and developing technological start-up's. An expert and active practitioner in the field of commercialization of scientific research in Life Sciences.

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Find out more on www.bioceltix.com