

Thursday, December 22, 2016 | research report

Polski Bank Komórek Macierzystych: buy (new)

BKM PW; BKM.WA | Other, Poland

Dividend In The Blood

PBKM collects and stores blood left in the umbilical cords and placenta of newborns. Cord blood can be used to harvest stem cells that can assist in the treatment of a variety of life-threatening diseases, including anemia, leukemia, metabolic and immunological disorders, and in regenerative medicine. It provides an alternative to embryonic and bone marrow stem cells. PBKM has a leading position in Poland and across Europe, with a market share of 14% built among others via the blood bank chain FamiCord. The Company operates a successful distribution network, and it has established close relationships with healthcare providers. An investment in PBKM provides a rare combination of a defensive play, relatively low exposure to political risk, and dividends (with dividend yield in 2017 forecast at 3.2%). Further, PBKM offers strong growth potential with a projected 2016-2019E CAGR of 17%, coupled with a healthy balance sheet, set to produce net cash throughout the forecast period. We are initiating coverage of PBKM with a buy rating and a price target of PLN 70.00 per share.

A defensive business model

PBKM's core market of healthcare services is characterized by low sensitivity to economic conditions. What is more, PBKM has built a mostly subscription-based revenue model which gives it an edge over European competition, and which generates less long-term risk than blood storage offered on a prepaid basis, and makes revenues more predictable. About 23% of the Company's cash revenue comes from blood storage, where the customer churn rate is low at less than 1%.

Dividend potential

PBKM's dividend policy provides for annual distributions of up to 50% of consolidated annual net earnings. Because of the relatively low operating cash flow generated in 2016, next year's payout ratio will likely be scaled back to 35%, but within two years it should be restored to 50%. We believe PBKM will offer dividend yield of 7% in 2019, supported by limited capital investment (with CAPEX less than 4% of revenue) and a stable balance sheet with a consistent net cash position.

Earnings outlook

The number of blood samples that PBKM has acquired for storage via B2C transactions has doubled to 123 thousand in the last three years. We expect PBKM to cross the 200,000 mark in 2020, one year later than the Company itself is aiming for, driven by Poland, where the market penetration rate with blood banking services is low at 1-3%, but is expected to increase with the increasing population and affluence of urban areas, and by Turkey, where the birth rate is the highest in Europe (with 1,337,000 live births per year) while the blood bank market penetration rate is less than 1%. The growth in the banked blood volume will be supported by operating leverage.

(PLN m)	2014	2015	2016E	2017E	2018E
Revenue	85.0	104.8	125.7	140.1	154.7
EBITDA (adjusted)	19.0	27.3	34.7	42.2	49.5
margin	22.4%	26.1%	27.7%	30.1%	32.0%
EBIT	12.0	15.4	29.9	36.1	43.3
Net income	10.0	9.1	24.0	29.0	34.9
DPS	0.79	1.21	1.41	1.69	2.48
P/E	26.9	29.4	11.2	9.3	7.7
P/CE	20.3	19.7	9.3	7.6	6.5
P/B	7.8	6.6	4.7	3.4	2.7
EV/EBITDA (adj.)	13.9	9.7	7.7	6.3	5.3
DYield	1.5%	2.2%	2.6%	3.1%	4.6%

Current Price	PLN 53.95
Target Price	PLN 70.00
Market Cap	PLN 255m
Free Float	PLN 124bn
ADTV 3M	PLN 0.61m

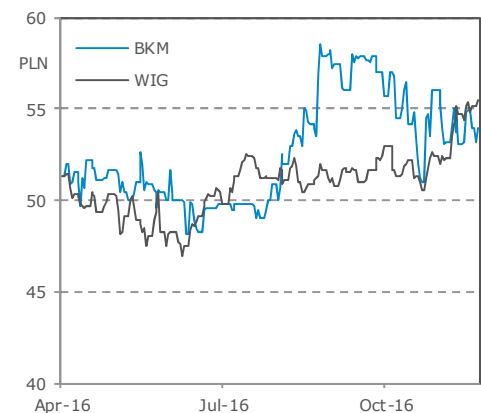
Ownership

EVF I Investments	38.1%
Jakub Baran (CEO)	8.0%
Altus TFI	5.3%
Oskar Chejda	5.1%
Others	43.5%

Business Profile

PBKM is the only blood bank in Poland offering cord blood storage. The Company is also involved in the development of advanced therapy medicinal products. PBKM has a presence in fifteen European Union countries, including via the chain blood bank locations FamiCord. The company runs seven labs, three in Poland and the rest in Hungary, Romania, Spain, and Turkey.

BKM vs. WIG



Company	Target Price		Rating	
	new	old	new	old
PBKM	70.00	-	buy	-

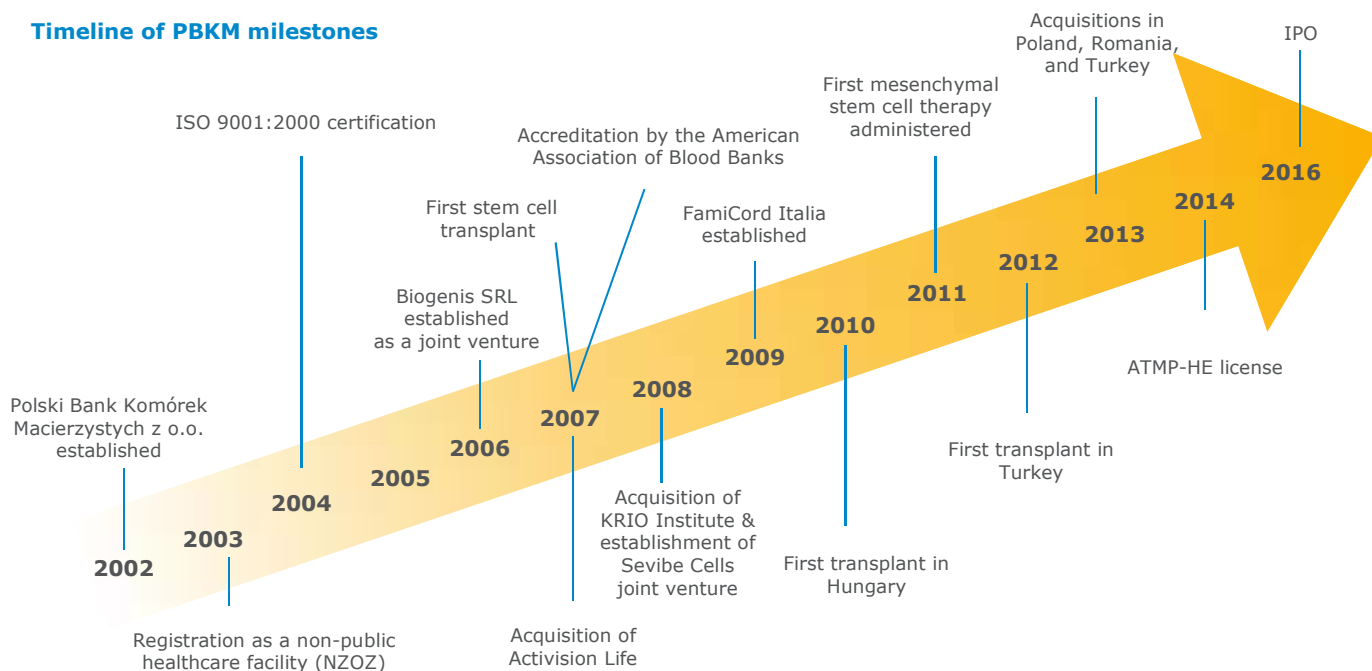
Company	Current Price	Target Price	Upside
PBKM	53.95	70.00	+29.7%

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Business Profile

Timeline of PBKM milestones



Source: PBKM

History

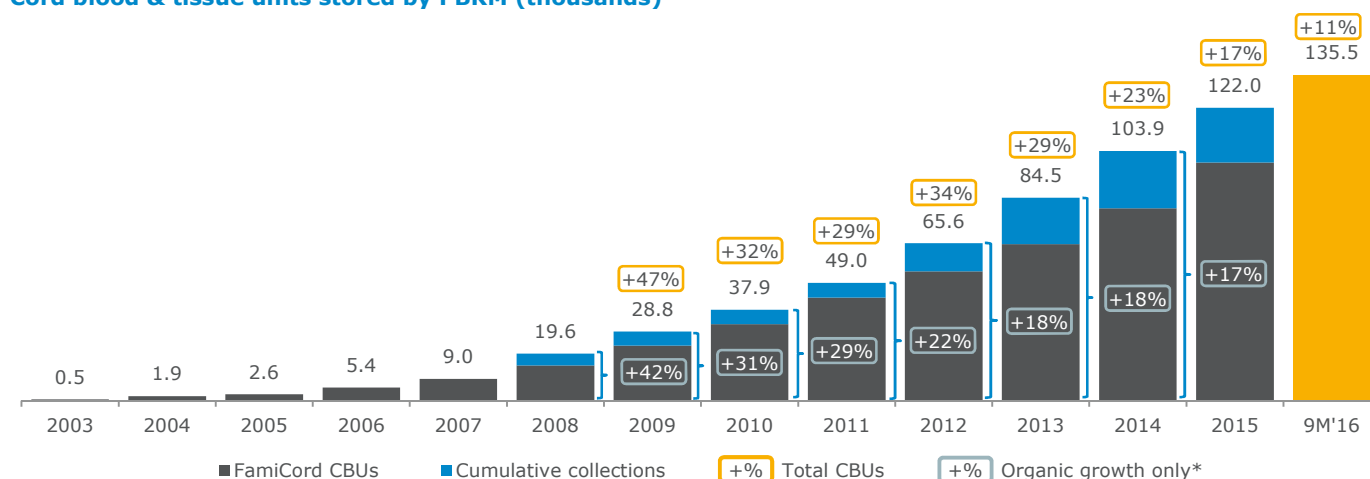
Polski Bank Komórek Macierzystych (PBKM) is a provider of cord blood banking services, which include the collection and preservation of umbilical cord blood for use in the treatment of hematologic cancers, and in regenerative medicine. Founded in 2002, in the same year PBKM set up a cord blood stem cell processing and storage laboratory on the premises of Poland's biggest pediatric hospital, the Children's Memorial Health Institute in Warsaw. In 2006, PBKM entered into a partnership with the Hungarian blood bank KRIO regarding mutual stem cell preservation in case of emergency. That same year, the Company also became a member of the American Association of Blood Banks, and applied for AABB accreditation so that its stem cells could be used for transplantation in the US. In 2007, PBKM became the second-ever AABB-accredited cord blood bank in Europe. In the same year, it became the first commercial blood bank to supply cord blood for transplantation in a procedure performed by the Pediatric Bone Marrow Transplantation Clinic in Wrocław.

In 2009 the private equity firm Enterprise Investors **acquired a 50.1% stake in PBKM for PLN 18.1m**. In the previous year, the Company generated a consolidated revenue of nearly PLN 20m. At the time of the Enterprise Investors takeover, PBKM was storing 14 thousand cord blood units (**CBU**) each in Poland and in other countries. In 2010, PBKM stem cells were used in the first-ever cord blood transplant in Hungary, followed in 2012 by the first transplant in Turkey. In 2014, PBKM obtained six manufacturing authorizations from Poland's pharmaceutical regulator to develop custom advanced therapy medicinal products (ATMP) and use them in patients under the so-called "hospital exemption" clause of EU Regulation (EC) No 1394/2007.

In 2006, PBKM embarked on an international expansion plan as a co-founder of the Romanian stem cell bank Biogenis, the owner (since 2007) of Activision Life, with operations in Latvia and Estonia, and a shareholder in VidaCord in Spain, where, a year later, it established the cord blood banking joint venture Sevibe Cells. In 2008, by taking over the Hungarian cord blood bank KRIO, PBKM gained access to the markets of Croatia, Serbia, Macedonia, and Bosnia & Herzegovina. In 2009, PBKM formed FamiCord Italia in Milan, and in 2012 it took over controlling stakes in Sevibe Cells, FamiCord Italy, and Romania's Stemlab, as well as founding Cryoprofil in Poland. The next year, the Company continued its expansion in Romania, and took over Yasam Bankasi in Turkey. At home, in 2013 PBKM acquired the cell bank Longa Vita, followed by the takeover of Diagnostyka Bank Komórek Macierzystych in 2014.

At 30 September 2016, PBKM was **storing 135.5 thousand cord blood units**, of which 123.2 thousand collected from private individuals. Aside from B2C stem cell storage, PBKM also provides blood preservation services to other banks (B2B), and operates a public cord blood registry (the Company has also partly financed the cord blood donations).

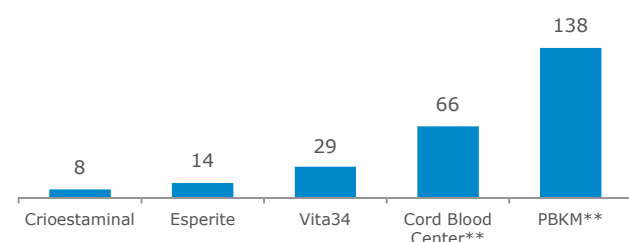
Cord blood & tissue units stored by PBKM (thousands)



Source: PBKM; *new units relative to total units as of the end of prior year

As of late 2015, PBKM, internationally doing business as 'FamiCord,' had provided the largest number (138) of cord blood units for the medical treatment of patients of all family blood banks in Europe. FamiCord has built competitive advantage across Europe by earning a reputation as a trusted and reliable blood bank, supplying stem cells for use in standard and experimental therapies for a wide range of conditions, including multiple sclerosis and spinal cord injuries.

Number of stem cell treatments performed in Europe by cell provider*



Source: PBKM, Data as of end-2015

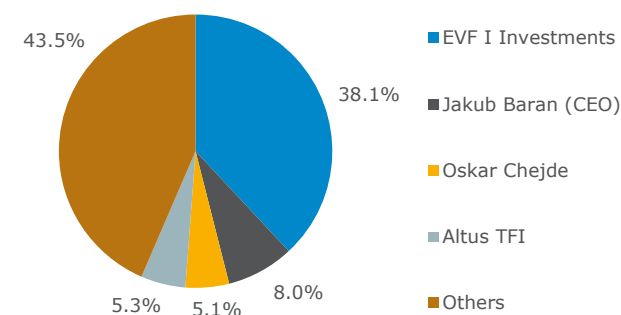
*Combined conventional and experimental treatments;

**CBC jointly with the public cord blood bank Eurocord; The statistic for PBKM includes umbilical blood and tissue

Shareholders

The capital stock of Polski Bank Komórek Macierzystych amounts to PLN 2,267.4 thousand, and it comprises 4,234,220 shares with a par value of PLN 0.50 each. The shares have no preference in respect of dividends or voting rights. They are wholly subscribed for and fully paid up.

PBK shareholders



Source: PBKM

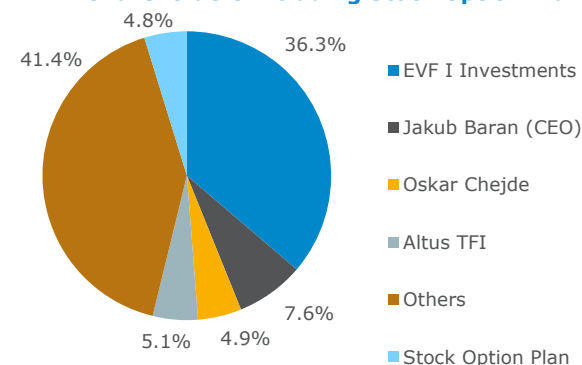
Stock Option Plan

PBK has in place a Senior Management Incentive Plan effective from 2016 through 2019. Under the Plan, the Company plans to issue **236,241 warrants** which may result in a dilution of approximately 4.8% based on the number of shares outstanding after the warrants are exercised. The warrants will be allotted pro rata on an annual basis. Any warrants not vested during a year will be added on a cumulative basis to the following increment for potential vesting in subsequent years. The warrants shall vest as follows and subject to the satisfaction of the following requirements:

- (1) 50% of the warrants offered during a year shall vest subject to the achievement by PBKM of the EBITDA milestone set by the Supervisory Board by 31 March of that year,
- (2) 50% of the warrants offered during the year shall vest subject to PBKM achieving an increase of 20% on a year-on-year basis in earnings per share (if the EPS growth is in the range of 20-30%, in the following year the increase sufficient to vest will be a percentage representing the difference between 20% and the value by which EPS growth exceeded 20% in the previous year; If EPS growth exceeds 30%, in the following year EPS needs to increase by 10% to mandate vesting).

The issue price of the shares to be issued upon the exercise of the warrants shall be equivalent to the IPO price of PLN 47.

PBK shareholders including Stock Option Plan*

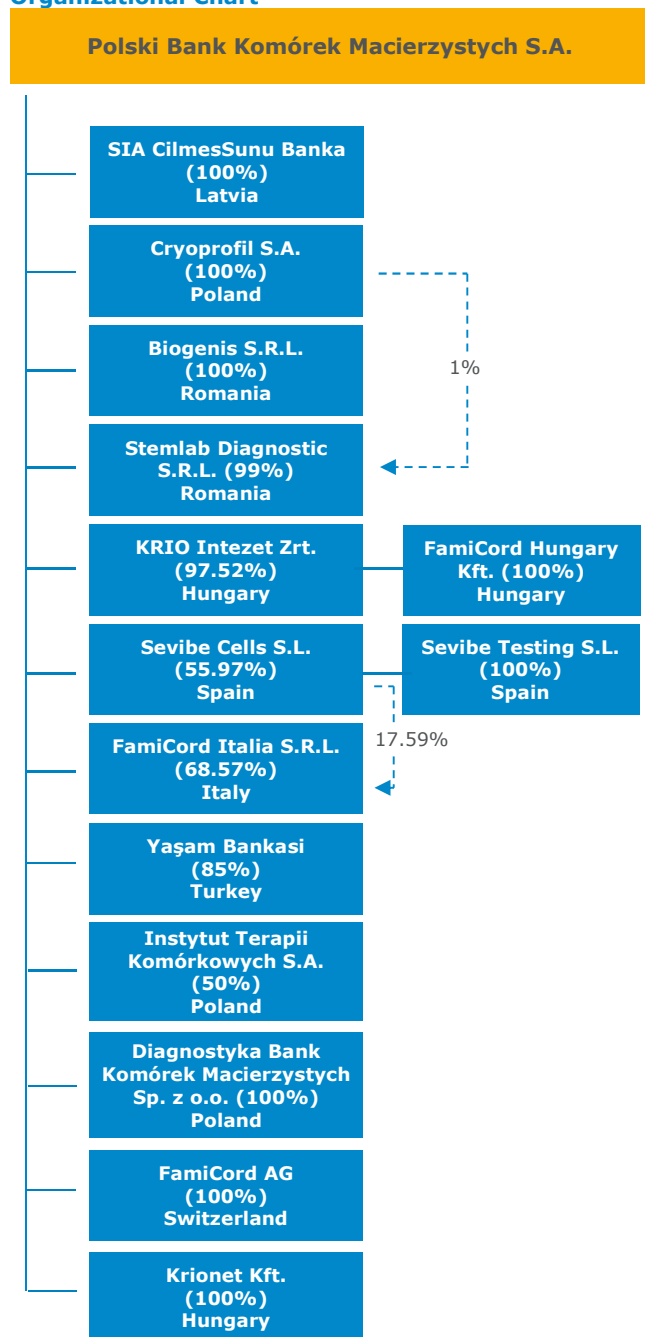


Source: PBKM; *Assuming the issue of the maximum number of shares

Organizational Structure

The PBKM Group of Companies consists of the parent company, Polski Bank Komórek Macierzystych S.A., and fourteen subsidiary operations, of which two controlled indirectly.

Organizational Chart



Source: PBKM

Products

PBKM offers the collection, preservation, and storage of umbilical cord blood and placental blood, and it is the only blood bank in Poland to facilitate the banking of umbilical cord tissue. The Company is also involved in the development of advanced therapy medicinal products using stem cells.

Cord Blood and Stem Cells

Umbilical cord blood is the blood that remains in the umbilical cord of newborn children. It is a rich source of stem cells, which are primitive, non-specialized cells that are capable of infinite self-renewal and differentiation into the desired specialized cells – properties which make them useful in the regeneration or replacement of damaged cells. Cord blood stem cells can be preserved and stored for later use in the treatment of approximately eighty diseases, including a wide range of cancers and blood disorders. They are also being researched for their potential to aid in regenerative medicine.

The Umbilical Cord

Until recently, the umbilical cord was considered a waste product of the birthing process. Today, research has shown that the so-called Wharton's jelly, the tissue that coats and protects the umbilical cord vessels, contains a wealth of stem cells, called 'mesenchymal stem cells,' which, among various other applications, can aid the healing of wounds, and, potentially (research is ongoing), in treating **bone and cartilage diseases**. The most fundamental properties of umbilical cord blood stem cells include:

- The ability to differentiate into specialized cells, including neural cells, muscle cells, bone, and cartilage,
- The ability to modulate immune responses, and
- The fact that the stem cell donor does not have to be related to the recipient.

The Advantage Of Cord Blood Over Other Stem Cell Sources

Stem cells are found, among others, in bone marrow and peripheral blood, but the youth of umbilical cord stem cells gives them an advantage over other cells. Stem cells derived from adult bone marrow are affected by the adult's lifestyle choices and general health (shaped by factors like exposure to UV radiation and chemicals, age, eating habits, etc.), while cord blood stem cells, which are collected from a newborn donor, are not. Moreover, once processed and frozen, cord blood is immediately available for transplant. Other advantages of umbilical cord blood include a non-invasive harvesting technique, low risk of contamination, and easier donor selection for transplants since the donor and the recipient do not have to be related.

When it comes to other methods of obtaining stem cells, they include the controversial harvesting of stem cells from human embryos – a method which is seen by some as an ethical dilemma, and which has been condemned as immoral by the Catholic Church. The fat tissue is also a source of so-called adipose stem cells, used in cosmetic surgery, including fat grafting. In fact, stem cells can be derived from various other types of tissue, such as neural and intestinal tissue, and even from teeth (scientists have successfully regenerated an animal tooth from dental pulp stem cells), however these cells are harder to isolate and harvest.

A comparison of stem cell sources

	Embryonic tissue	Cord blood	Marrow & peripheral blood
Method and ease of harvesting	Stem cell harvesting from human embryos is ethically and politically controversial	Stem cells are harvested from the umbilical cord in a non-invasive post-natal procedure	The cell collection procedure has to be performed under general anesthesia or sedation
Cell properties	Totipotent and pluripotent stem cells can differentiate into all cell types	Multipotent cells can transform into several types of distinct cells (including marrow, blood, or muscle cells), however they are limited by the germ layer they originate from	Unipotent cells can only differentiate into one specific type of cell
Availability for transplantation	Cells have to be grown in a laboratory	Once harvested, cord blood is ready to use at any time	The patient has to wait for a donor match
Compatibility between donor and recipient (HLA* matching)	n/a	A four out of six match between the HLA markers of the donor and the recipient are enough	A 9 of 10 HLA match is required
Donor availability		An umbilical cord blood donation is a once-in-a-lifetime opportunity	Donors can donate marrow and blood multiple times during their lifetime
Quantity		The amount of stem cells available for transplant is limited by the quantity of blood collected after birth	Unlimited (over a long time)

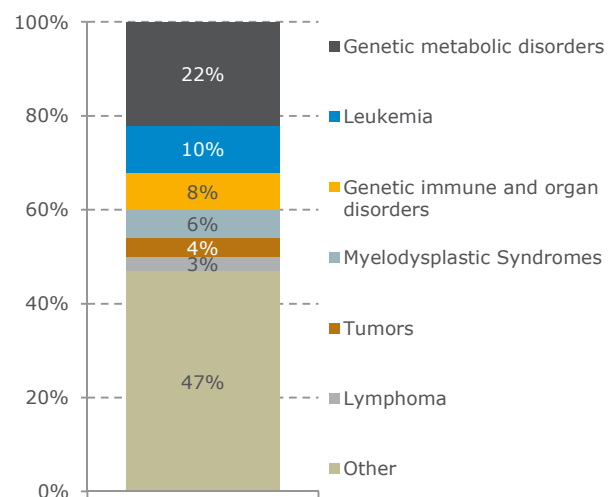
Source: PBKM; *Human leukocyte antigens

Cord blood's limitation in terms of cell count yield is being addressed through vigorous research into in vitro cell proliferation, and studies on the use of cells from multiple donors.

Stem Cell Treatments

The type of disorders most commonly treated with stem cells are **inherited metabolic disorders**, accounting for approximately 22% of all cord blood transplants. Further, about 10% of all transplants to date were performed on **leukemia** patients, and about 8% were done to treat congenital immune disorders. Leukemia patients cannot be given their own cord blood, as the stem cells may contain the same DNA mutation that caused the leukemia.

Conditions treated with cord blood stem cells (global statistics)



Source: PBKM

Stem cells are also used to regenerate damaged tissue, including skin burns, brain tissue after stroke, spinal cord injuries, liver tissue, and muscular dystrophy. The list of conditions that can be treated with cord blood stem cells is constantly growing, and stem cell therapy is being investigated in a number of clinical studies for a range of diseases which remain incurable as of today, including type 1 diabetes, Alzheimer's disease, cerebral palsy, Parkinson's disease, multiple sclerosis, and Crohn's disease.

Conditions treated with cord blood stem cell transplantation

Category	
Blood Disorders	Autoimmune Neutropenia
	Fanconi Anemia
	Hypoproliferative Anemia
	Pancytopenia
	Juvenile Dermatomyositis
	Pure Red Cell Aplasia
Cancers	Acute Lymphocytic Leukemia
	Acute Myelogenous Leukemia
	Hodgkin's Lymphoma
	Myelodysplastic Syndromes
Metabolic Disorders	Adrenoleukodystrophy
	Gaucher Disease
	Krabbe Disease
	Niemann-Pick Disease
	Wolman Disease
	Metachromatic Leukodystrophy
	Mucopolysaccharidosis II and III
	Tay-Sachs Disease
	Maroteaux-Lamy Syndrome
Immune Disorders	Mucopolysaccharidoses
	Ataxia-Telangiectasia
	Severe Combined Immunodeficiency Diseases
	Hypogammaglobulinemia
	Wiskott-Aldrich Syndrome
	DiGeorge Syndrome
	Kostmann Syndrome
	Bare Lymphocyte Syndrome
	Omenn Syndrome

Source: www.pbkm.pl

The first-ever cord blood transplant was performed in 1988 in a patient with Fanconi anemia. Between then and 2015, an estimated 35,000 cord stem cell transplants were performed across the world, and the numbers are steadily increasing.

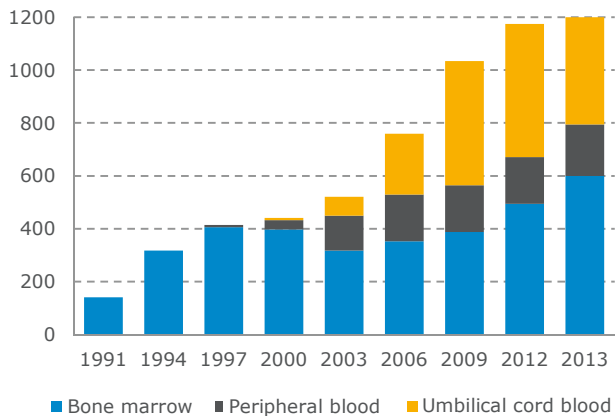
List of selected stem cell transplantations from cord blood stored with PBKM

Year	Condition	Donor	Age of Recipient	Location
2007	Neuroblastoma	Siblings	8	Wrocław
2008	Encephalopathy	Patient	1.5	Warsaw
2009	Myelodysplastic Syndrome	Siblings	5	Lublin
2010	Acute Lymphocytic Leukemia	Siblings	2	Miskolc, Hungary
2011	Histiocytosis	Siblings	3	Poznań
2011	Chronic Granulomatous Disease	Siblings	7	Wrocław
2013	Severe Aplastic Anemia	Siblings	7	Wrocław
2013	Acute Myeloid Leukemia	Siblings	2.5	Poznań
2015	Acute Lymphocytic Leukemia, T-cell line	Siblings	n/a	Wrocław

Source: PBKM

The likelihood that a person will need stem cell therapy increases with age, with adults accounting for about 80% of all treatments. The **probability that an individual will need a stem cell transplant during their lifetime is estimated at about 1%.**

Number of pediatric stem cell transplants performed in the US by cell source

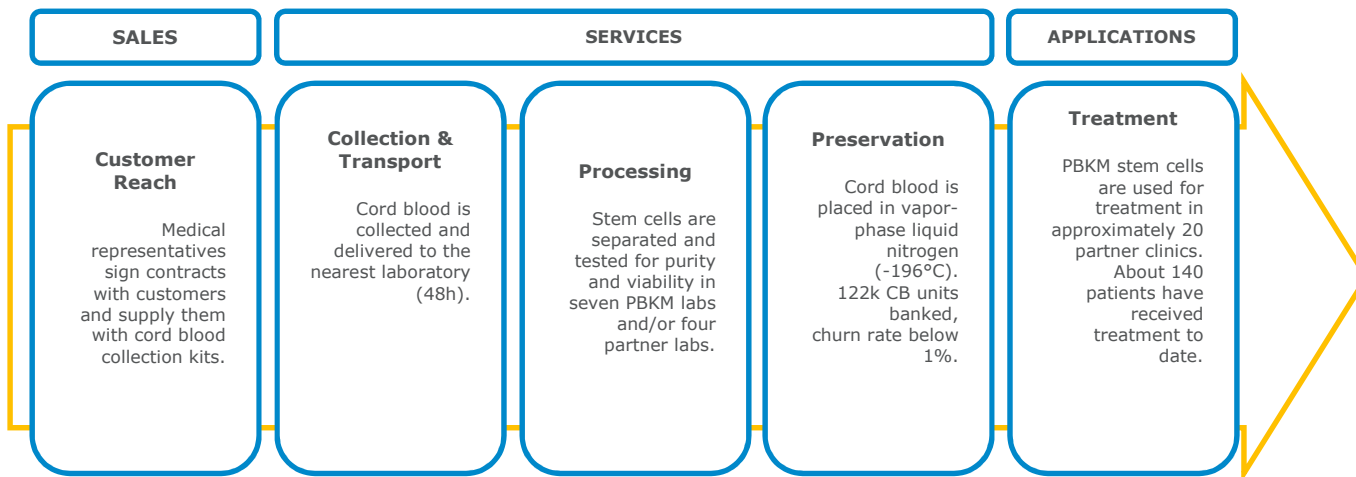


Source: National Marrow Donor Program 2012, Parent's Guide to Cord Blood Foundation, *Bone Marrow Transplantation*, 2015

Business Model

PBKM's business model is based on five core elements: (1) customer reach, (2) acquisition of blood, (3) preservation, (4) storage, and (5) treatment.

Overview of PBKM's business model



Source: Dom Maklerski mBanku

PBKM reaches prospective customers through a network of medical representatives, as well as via partner obstetricians and midwives, and during childbirth classes for future parents.

A PBKM cord blood collection kit



Source: PBKM

After enrolling with the PBKM blood banking service, expectant parents receive a collection kit to be given to the medical professional assisting during the delivery, who will collect the cord blood after birth. **PBKM has partnered with thousands of medical professionals and healthcare providers across Europe to educate prospective parents on the benefits of blood banking, and to handle cord blood collection.**

The amount of cord blood collected from an umbilical cord is about **70 milliliters** on average, enough for an **autologous transplant** in a patient **with up to 40 kilograms of bodyweight** and an **allogeneic transplant** in a patient **with up to 30 kilograms of body weight** (studies are being conducted into ex-vivo expansion of cord blood stem cells for transplantation, and in the

meantime heavier patients are transplanted with multiple blood units or with stem cells pooled from different sources). Cord blood collection is absolutely safe for the mother and the child. Once collection is complete, the collection kit is sent by courier to a PBKM laboratory. PBKM medical partners are also trained to collect stem cell-rich cord tissue alongside blood.

Since stem cell viability decreases with time, the collection kits have to be delivered to the lab for processing as quickly as possible, preferably before the 12-hour mark. In the lab, the blood or tissue are processed and stored under refrigeration for future use. Lab technicians process cord blood for storage by extracting the stem cells and transferring them to a freezing bag, which is then placed in a protective cassette. First, however, the blood is always tested for microbial contamination, found on average in 4%-5% of all specimens, but since in certain cases even cells from contaminated blood can be administered to patients with the right precautions, 97% of all blood units collected by PBKM are eligible for storage. Once properly processed, the specimens are stored in the vapor phase of liquid nitrogen for cryogenic preservation at the temperature of -196 degrees Celsius. Stem cells in cryogenic storage can maintain their viability for over 50 years. PBKM owns seven laboratories, including two GMP-certified and three with AABB accreditation, and it is partnered with third-party labs across the world, including in Poland, Switzerland, the US, and Germany. **PBKM's main competitive advantage in our view lies in the wide network of partner hospitals and medical professionals, and the seven labs. With that said, since PBKM does not retain its partners on an exclusive basis, and given that, today, the bulk of cord blood collections in Poland are performed in big cities with over 100,000 population, which, per our calculations, account for more than 75% of all PBKM collections, with the emergence of other major blood banking players, we think the Company may face the loss of competitive advantage and a deterioration in profits .**

A PBKM lab



Source: PBKM

PBKM works to reach the target customer group of expectant parents (approximately 400,000 children are born every year in Poland, with the number of births across Europe, excluding Turkey, at around 5 million) by raising awareness of cord blood banking benefits via its medical associates. Under EU rules, **every pregnant woman ought to be made aware of umbilical cord blood banking, however this is not an official requirement in Europe.** In the US, some states are required to provide UCB banking information to pregnant patients.

Partner Hospitals

PBKM's extensive distribution network includes approximately 1,100 hospitals in Europe, of which 450 in Poland.

PBKM partner hospitals

Country	Approximate number of partner hospitals*
Poland	450
Turkey	275
Romania	100
Spain	150
Hungary	75
Italy	50
Latvia	15
Other	35

Source: PBKM; *It is estimated there are approximately 100 maternity units in Europe per 10 million population

PBKM has built extensive partner networks in most of its geographic, and it is working on expanding its relationships with healthcare providers in Turkey and Spain.

PBKM's Polish partner network



Source: PBKM

PBKM Laboratories

By operating its own laboratories in local communities, PBKM can offer reassurance to the local customers that they are always in close proximity to their blood specimens, as well as maximizing stem cell viability by reducing the time from collection to storage while minimizing transportation costs. Moreover, local facilities can count on support from local authorities. With that said, PBKM gives its customers a free choice of location for stem cell storage. Of the seven state-of-the-art labs, three are located in Poland, and the remaining four are in Hungary, Romania, Spain, and Turkey. In addition, PBKM also has a network of partner labs in Switzerland, the US, Germany, and Poland. By comparison, rival blood banks in Europe have one to two labs on average at their disposal.

Public Versus Private Cord Blood Banking

Umbilical cord blood can be deposited for storage in either a public, or a private blood bank. **Public cord blood banks operate based on a similar principle as national bone marrow donor registries** in that the donors relinquish ownership of their stem cells, which are made available to anyone who may need them. Public cord blood is government-funded and free to the recipients. Most European countries operate public cord blood registries which can release stem cells to unrelated recipients in other countries if a good match is established. The costs are covered by the recipient's health provider. Cord blood banking in Europe is almost exclusively public, (for example, Italians looking for a private blood bank have to go abroad). **In Poland, public banks were storing a combined 4,000+ specimens as of the end of 2014, of which 3,000 deposited with PBKM. The small scale of public cord blood banking in Poland is an opportunity for PBKM to grow market share.**

Private cord blood banks, or "family banks," **charge fees** for blood preservation services, and they store the blood for the exclusive use of the donor's family.

Public vs. private cord blood banking

	Public Banking	Private Banking
Stem cell availability	Anyone who needs a transplant	The donor and their family only
Ownership	Usually the state	The donor's family
Transplant authorization	Physician	Physician
Technology	Same as in private banking	Same as in public banking
Preservation costs	None	Covered by the donor's family
Cost of release for transplantation	The costs are usually covered by insurance, and they range from EUR 10 to 25 thousand in the EU and from US\$ 25 to 40 thousand in the US	None
Availability for transplantation	The identification of a match may take time	Immediate
Risk of transplant rejection	Yes	Yes in siblings, none in the donor

Source: PBKM

Advanced Therapy Medicinal Products

In 2014, PBKM obtained a manufacturing license for so-called Advanced Therapy Medicinal Products (ATMP), and qualified for the so-called "hospital exemption" whereby its ATMPs can be used in individual patients, in a hospital, without a need to obtain a marketing authorization. Since then PBKM has been developing experimental therapies using cord blood stem cells on request of transplant clinics and centers. PBKM's ATMPs use mesenchymal stem cells isolated from Wharton's jelly for tissue regeneration. They are administered to patients for whom all other treatments have failed. ATMPs are not a major source of revenue for PKMB at this stage, however experimental treatments are a growing market with lucrative profit potential. The research material is sourced from voluntary cord blood donations made to hospitals. PBKM has an advantage over potential competition in the experimental therapy market through its ATMP licensing and authorized laboratories. Demand for innovative stem cell therapies is much greater than supply (in Poland, it is estimated at several thousand patients per year, able to afford experimental treatment), and to create more capacity PBKM is planning extensions to its Warsaw-based lab. In addition, in 2014 PBKM, jointly with a private individual and the University of Warmia and Mazury, formed a stem cell treatment center in the city of Olsztyn called "Instytut Terapii Komórkowych," with an initial focus on experimental treatments for neurological conditions.

Number of experimental treatments using PBKM stem cells administered to patients

	Thru 2012	2013	2014	2015
Patients	5	6	11	96

Source: PBKM

Strategy

PBKM's growth strategy concentrates on increasing the number of cord blood units in storage **to a target 200,000 by the end of 2019 (from 109,000 at the end of 2015), implying average annual growth by 21,000 units (CAGR=16%)**. PBKM believes it can achieve this goal by increasing its penetration rate in the core markets for blood banking services through awareness-raising campaigns among potential customers. As part of its image-building campaign, PBKM also wants to widen the range of applications for cord blood stem cells in the treatment of diseases.

Market Outlook

According to a report by Grand View Research, from an estimated **\$5 billion in 2014**, the global market for cord blood banking services may reach **\$12.5 billion by 2022**, growing at an estimated **CAGR of around 11%**.

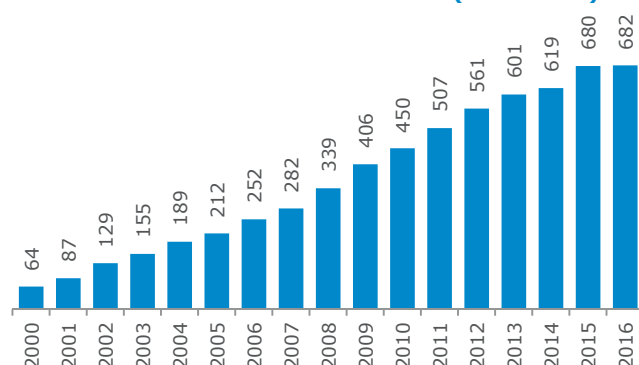
The key drivers of the market include:

- the increasing application of stem cell therapy in disease treatment,
- the increasing awareness about the availability of cord blood banks among parents, and
- rising government support for cord blood stem cell research and testing.

The setbacks identified by Grand View include regulatory restrictions, high costs of blood collection and storage, and a low probability of donors ever needing their own cord blood for treatment. North America was found to be the dominant player in the global cord blood banking market in 2014, driven by a high awareness of blood banking and a large presence of private blood banks. The second-biggest market for blood banking is Europe, characterized by high public health expenditure and banking awareness. However, some European countries, like France and Italy, place restrictions on the creation of privately-owned blood banks. Grand View sees Asia Pacific, most notably China, India, and Hong Kong, as a market with significant growth potential through 2022, owing to rising healthcare expenditures and increasing investment by global players.

It is estimated that there are currently approximately 160 public blood banks across the world with 682,000 blood units available to the general public, compared 4 million cord blood units for exclusive family use stored in approximately 200 private banks. According to data compiled by the World Marrow Donor Association, a voluntary organization of representatives of blood stem cell donor registries and cord blood banks, in the last five years the number of cord blood units available in public blood banks increased by over 51% to 680 thousand at the end of 2015. Of this, only 3,680 blood units were stored in Poland, most of them at PBKM blood banks. By January 2016, the global public registry had 682,000 blood units – an increase of about 10% from January 2015.

Cord blood units in BMDW* database (thousands)



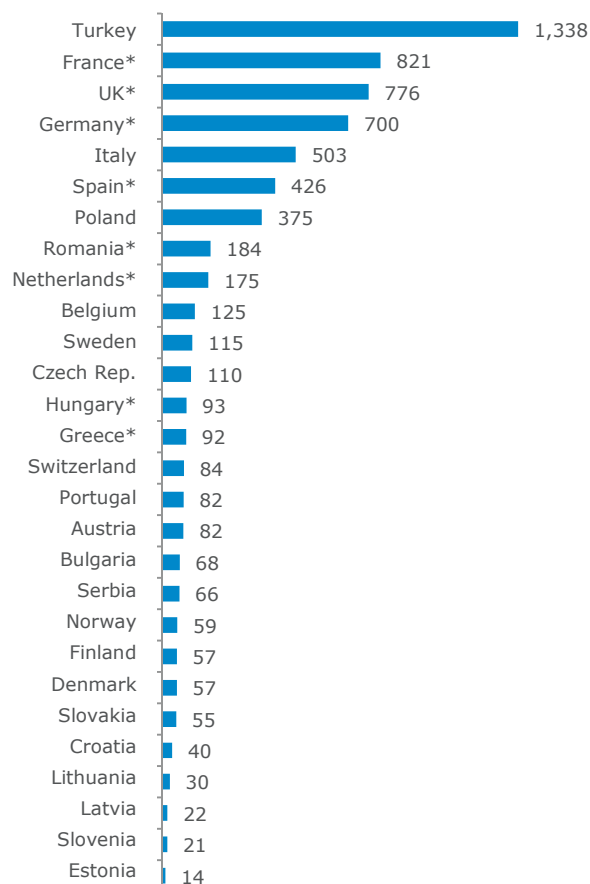
Source: Bone Marrow Donors Worldwide

Demand for cord blood banking services is shaped by two key factors: **birth rate and market penetration**.

Birth Rate

The country with the highest birth rate in Europe is Turkey, followed by France, the UK, Germany, Italy, and Spain. For PBKM, the markets with the most growth potential in terms of births are Turkey, Spain, and Poland.

2014 live births in Europe (thousands)

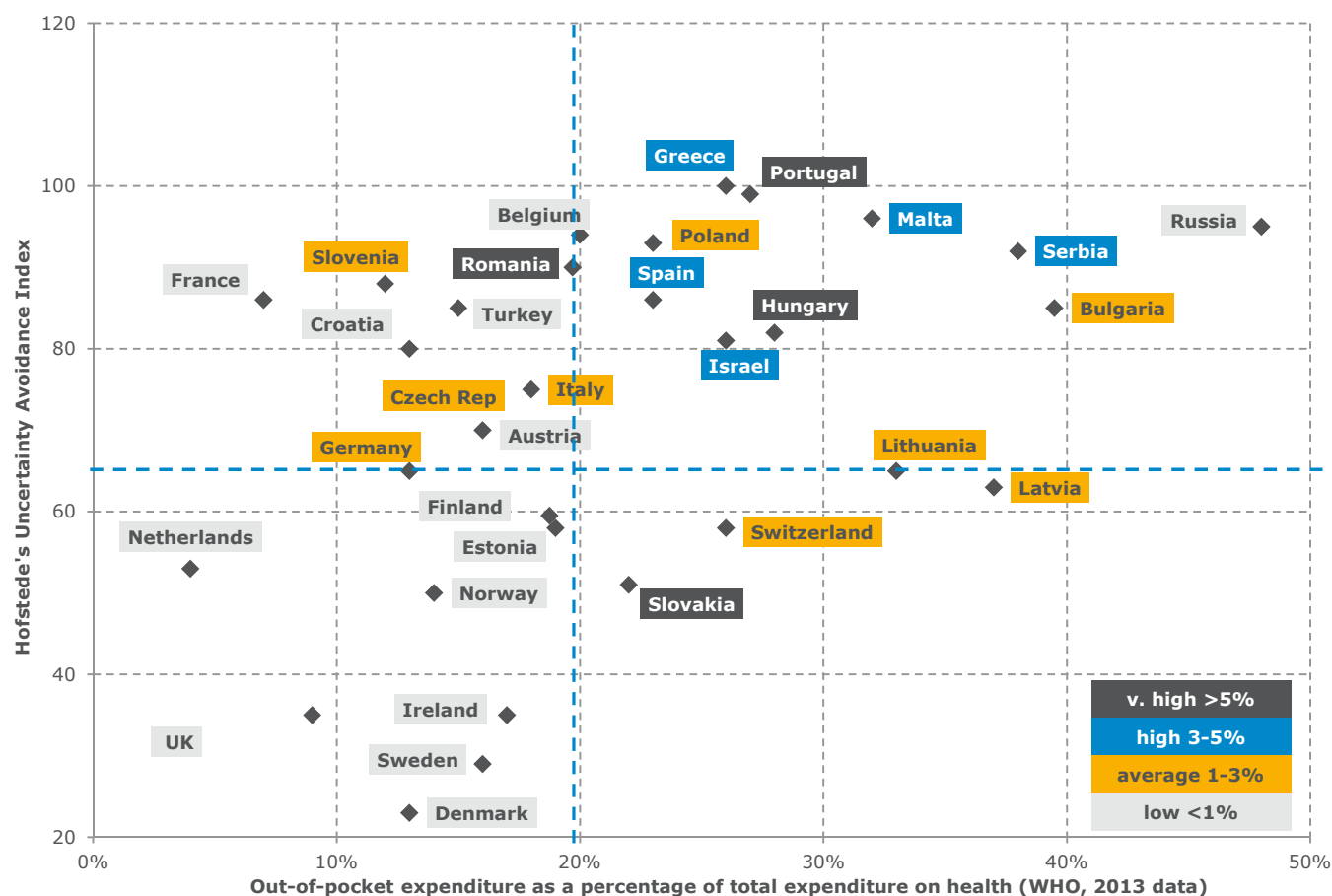


Source: Eurostat, *estimate

Market Penetration

The market penetration rate for private cord blood storage services, measured as the ratio of births where cord blood was privately stored to total births, is determined by the level of out-of-pocket **health expenditure** and **uncertainty avoidance** in a society. Countries with the lowest market penetration rates, not exceeding 1%, are Sweden, Denmark, Norway, Finland, UK, Ireland, and the Netherlands, i.e. countries whose citizens as a rule have access to high-quality state-funded public health services and medical care. In countries like Greece, Portugal, Malta, Hungary, and Spain, where access to high-quality care is more limited, promoting the rise of private medicine, the market penetration rates for private cord blood banking (PCBB) are higher at over 5%.

National PCBB penetration rates in Europe

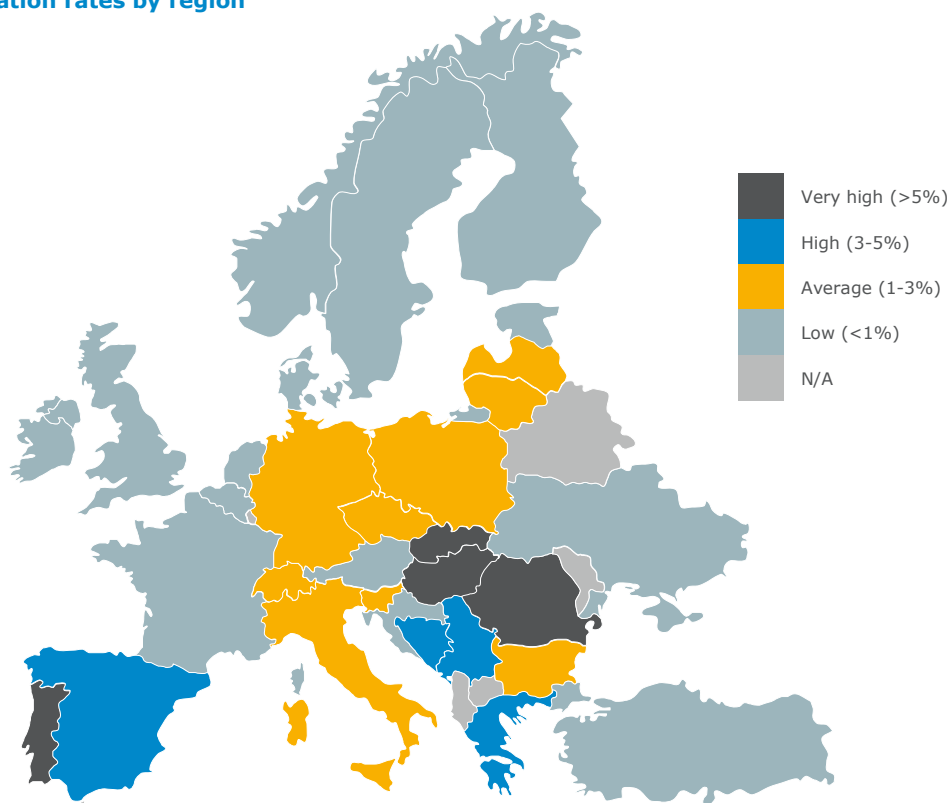


Source: PBKM, WHO, The Hofstede Centre (<http://geert-hofstede.com/>)

Compared to 3-4% in the United States, the average PCBB market penetration rate in Europe is 2%, attributed to a slower rate of growth in new cord blood collection contracts. Market penetration rates in Asia are much higher at **10% in Hong Kong and Taiwan and 22% in Singapore**, owing to a more widespread use of experimental therapies. It is worth noting that some European countries have practically banned private cord

blood banking. One example is France, where, although there is no official ban, so far, no private blood bank has managed to obtain a license. Moreover, in Italy, cord blood collection for private purposes is allowed, but the blood has to be processed and stored abroad. Some private players bypass the ban by locating their banking facilities in San Marino or close to the Swiss border.

Market penetration rates by region

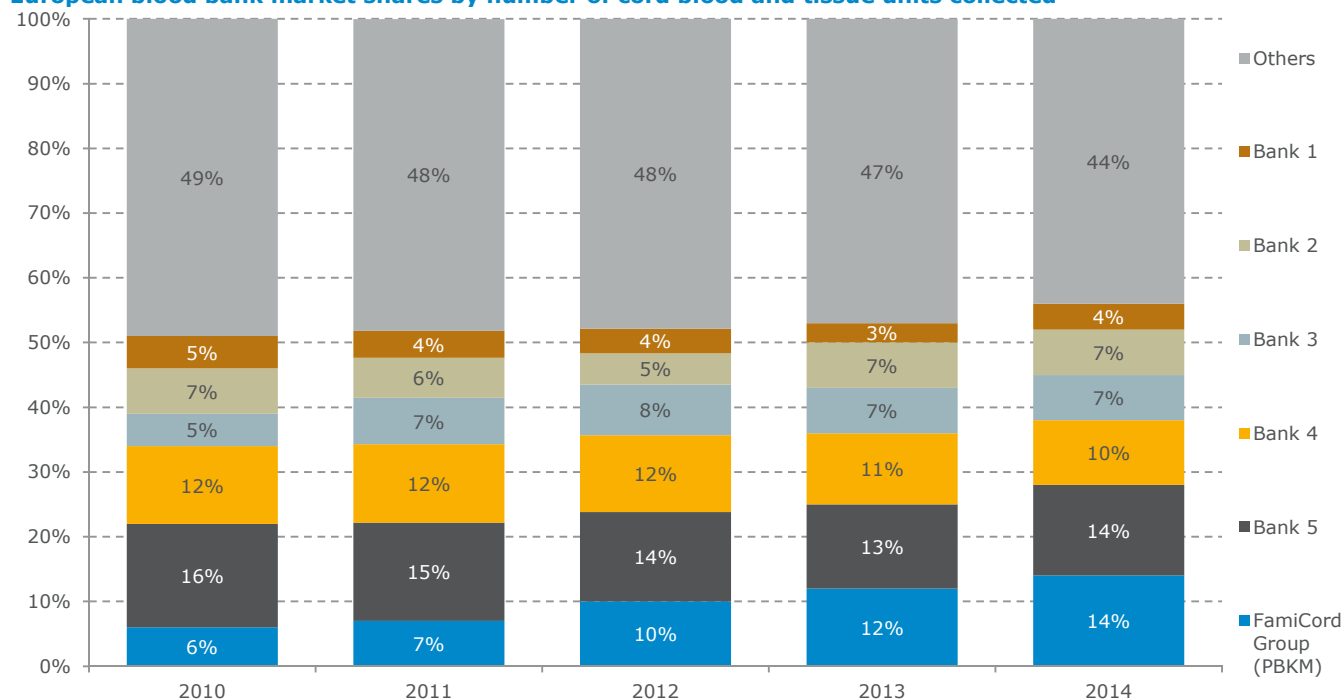


Source: PBKM

Geographic Presence of PBKM

PBKM is a leading player in Europe in cord blood and tissue collections, **with its market share doubled from 6% to over 14% in the five-year period through 2014**, mainly through organic growth.

European blood bank market shares by number of cord blood and tissue units collected



Source: PBKM

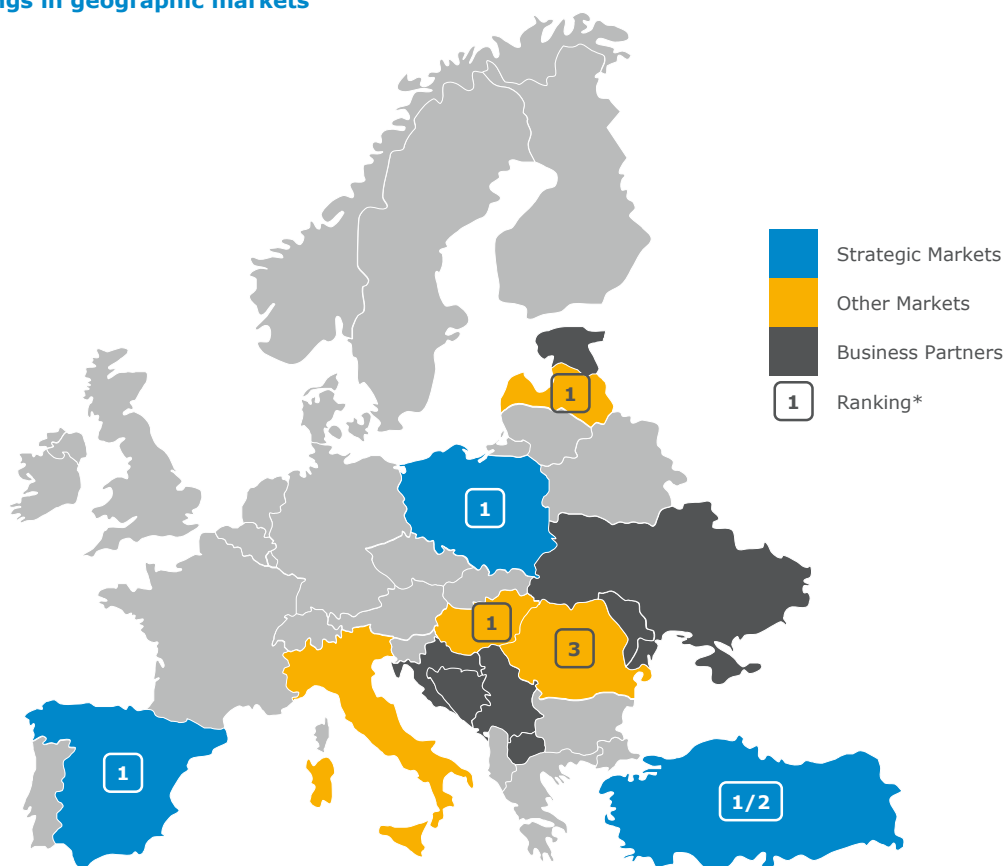
PBKM, also doing business as FamiCord, has a presence in fifteen countries in the European Union, including in seven via partner blood banks. The Company divides its geographic markets into

- **Strategic Markets (Poland, Spain, Turkey), and**
- **Other Markets (including Hungary, Italy, and Romania).**

In 2015, PBKM acquired 72% of the total new CBUs for storage in its strategic markets. In Poland, where the Company has a **dominant position** with a market share as high as 85%, PBKM operates via two companies doing

business under three names: Polski Bank Komórek Macierzystych, LongaVita, and Diagnostyka Bank Komórek Macierzystych. In Spain, where there are approximately 17 blood banks in total, PBKM has built a ca. 20% market share via the Sevibe blood bank and laboratory. In Turkey, the local unit Yasam Bankasi is a Top-2 player with a 20% market share. Turkey has about 10 blood banks, mostly in big cities, and the market there has huge potential for growth thanks to a high birth rate. Finally, PBKM ranks as the #1 player in Hungary and Latvia, and as #3 in Romania.

PBKM rankings in geographic markets

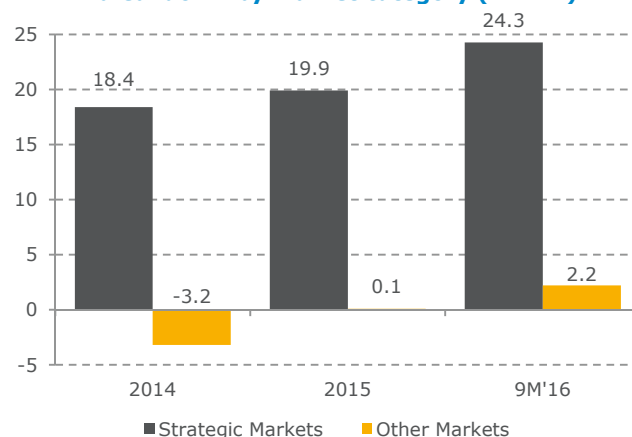


Source: PBKM

Accounting for 72% of all CBUs collected for storage in 2015, the Strategic Markets were responsible for 81% of PBKM's total revenue, in the amount of PLN 77.6m, generated in the nine months through September 2016, and they generated 91% of the period's PLN 24.3m EBITDA. In the same period, sales in Strategic Markets showed year-over-year growth of 29% compared to 11% in Other Markets. PBKM enjoyed a strong rebound in its Other Market earnings in 2016 after a zero profit generated in 2015 and an EBITDA loss of PLN 3.2m posted in 2014 (in 2013, the Other Markets accounted for 33% of the total EBITDA). The 2014 earnings slump at PBKM was due to the retroactive cancelation of former VAT credits and a one-time payoff of the back taxes in Hungary. **If we take into account the small profits generated in PBKM's non-strategic markets, the fact that the Company has been present in Turkey only since 2014, and that in 2015 minority interests were only PLN 0.4m, this, combined with the fact that the Spanish market is very highly competitive as it is divided between nearly 20 players, most of whom generate losses, to us indicates that the bulk of**

PBKM's annual earnings are generated by the parent company.

EBITDA breakdown by market category (PLN m)



Source: PBKM

European Competition

PBKM's major rivals in Europe are the following (note that some of these companies only report their cord blood unit numbers, excluding tissue units):

- Esperite (Cryo-Save) – a global player with a presence in Spain, Italy, and Hungary, offering storage on a non-subscription basis. Cryo-Save stores approximately 268,000 cord blood and tissue units. Currently it is developing a diagnostics service. In 2014 Esperite generated revenue of EUR 27.6m and an EBITDA loss of EUR 0.56m.
- Vita 34 – the first-ever family blood bank in Europe, with a small share of subscription customers. It stores approximately 120,000 blood and tissue units. In 2014 Vita 34 generated EUR 15.2m revenue and EUR 2.8m EBITDA.
- Cord Blood Center (CBC) – A monopolist in the Czech and Slovak markets, also present in Hungary in Romania. Stores approximately 135,000 blood and tissue units, mainly on a subscription basis.
- Future Health – A UK company with operations in 58 countries. Stores approximately 100,000 blood and tissue units on a pre-paid basis only.

The main characteristic which differentiates PBKM from its major European rivals is that these companies use mostly pre-paid storage plans which, in our view, entail greater long-term risk than a subscription model, which generates steady and predictable cash flow for a blood bank.

M&A Activity

There has been considerable M&A activity in the global cord blood banking market in the recent years. In June 2015, the global #1 player, the US-based Blood Registry, with a 2014 revenue of \$126m and EBITDA of \$24.2m, storing approximately 600,000 cord blood units, was acquired by Amag Pharmaceuticals for \$700 million. **The deal value implies a 2014 EV/EBITDA multiple of 15x, and the price per blood unit approximated \$1,200 (Cord Blood Registry charges monthly fees for most of its services).** The next major deal came in January 2016, when a 65.4% stake in China Cord Blood Corporation, the biggest private cord blood bank in China with over 300,000 blood units in storage and a 2015 revenue of \$102m and EBITDA of \$46m, was sold to Nanjing Xinjiekou Department Store **at an estimated EV/EBITDA multiple of 15x.**

Key Risks

Competition

PBKM has the dominant position in the Polish market, with an 85% market share, and it is a top-3 player in its other markets, and the emergence of new competition in any of these markets can affect its earnings outlook. We believe the **competitive risks are the greatest in Poland**, where the entry barriers are relatively low and boil down to forging relationships with hospitals and medical personnel. Assuming roughly that PBKM collects 75% of its blood units in 25% of Poland's biggest hospitals, a **new rival with blood banking know-how can easily step in and take over by offering to retain PBKM's medical partners on an exclusive basis. A market newcomer can use incentives in the form of competitive pricing and higher compensation to quickly gain market share.** As of this writing, the Management Board of PBKM are not aware of any plans by any potential rival to enter the Polish market.

Over-Reliance On Polish Operations

The geographic breakdown of PBKM's revenues indicates that the Company generates the bulk of its sales and profits in Poland. This is reflected in the relatively low earnings contributions of the other countries, and the small, 2015 profit of PLN 1.0m attributable to minority interests. The **lack of geographic revenue diversification** can be a source of risk, however PBKM expects to generate increasing profits in Spain in the coming years.

Regulatory Risk

PBKM's business and profits can be affected by changes in local market regulations. An example of this is the revised interpretation of VAT exemption rules in Hungary and Poland, which resulted in the Company having to pay back VAT.

Spain

In November 2016, the Catalan transplantation organization Organitzacio Catalana de Trasplantaments (OCATT), run by the Catalan Health Service, ruled that cord blood and tissue collection for banking can only be offered by authorized hospitals. According to PBKM, not all of its partner hospitals in Spain have made the list of OCATT-approved facilities, but as of this writing the Management is unable to say exactly how many as the list keeps changing. This gives rise to the risk that, by collecting CBUs in unauthorized hospitals, PBKM's Spanish blood banking unit, Sevice Cells, will lose its license. In such an event, Sevice can probably move its laboratory elsewhere, for example to Portugal. A more likely scenario, however, is that PBKM will scale back its Spanish partner network to just OCATT-approved hospitals, encouraging the prospective customers to have their babies delivered in just these facilities. In the transition period before the Company can reach the future parents, with Spanish cord blood collections estimated to be in the ballpark of 2-3 thousand a year, 11-16% of total (PBKM does not provide a geographic breakdown of its collection volumes), assuming half of these collections are done in non-OCATT-authorized hospitals, PBKM faces the loss of about 6-8% of its annual CBU volume. Note also that, since Sevice offers mostly pre-paid banking, the restriction of its prospective customer base can worsen near-term cash flow.

Public Cord Blood Banking

Poland's public cord blood registry is rather sparse, with only 4,000 specimens stored at the end of 2014, meaning a very low likelihood of finding matches for stem cell transplant patients. As the public bank grows, however, some of PBKM's private customers may switch to save on costs and access services covered by the national health plan. On the other hand, only a private bank gives the donor's family full ownership and exclusive access to the stem cells.

Media Coverage

According to some publications, cord blood has a number of disadvantages as a source of stem cells, including the low volume of blood that can be collected from a single donor, and transplant limitations in case of certain conditions. Greater media attention given to the cons of cord blood banking can affect demand for PBKM's services.

Cell Substitution

Scientists are able to isolate stem cells from an increasing number of sources, including from fat and teeth, and while the processing of these cells for storage still requires work, these new sources of stem cells are becoming a viable alternative to umbilical cord blood.

Currency Risk

As a company doing business in eight European countries, about 35% of PBKM's asset value, and at least 40% of revenues, are denominated in foreign currencies, giving rise to foreign-exchange risk on translation into Polish zlotys.

Accounting Policy

PBKM's accounting policy results in considerable discrepancies between **profitability and cash flow** as reported in the financial statements. For example, a blood banking contract based on a yearly subscription plan is shown to generate a higher profit than a pre-paid contract, even though the latter brings in more cash flow in a reporting period. In addition, certain choices in PBKM's accounting approach (contract durations, costs, etc.) can be said to skew the levels of revenues and profits reported in each period.

Balance-Sheet Risk

PBKM recognized retained losses of PLN 21.4m in its equity as of the end of 2015. Moreover, the Company owes back VAT to the Hungarian government following a change of exemption rules, and due to its accounting approach approximately one **half of its total assets are comprised of prepayments and accruals.**

Financials

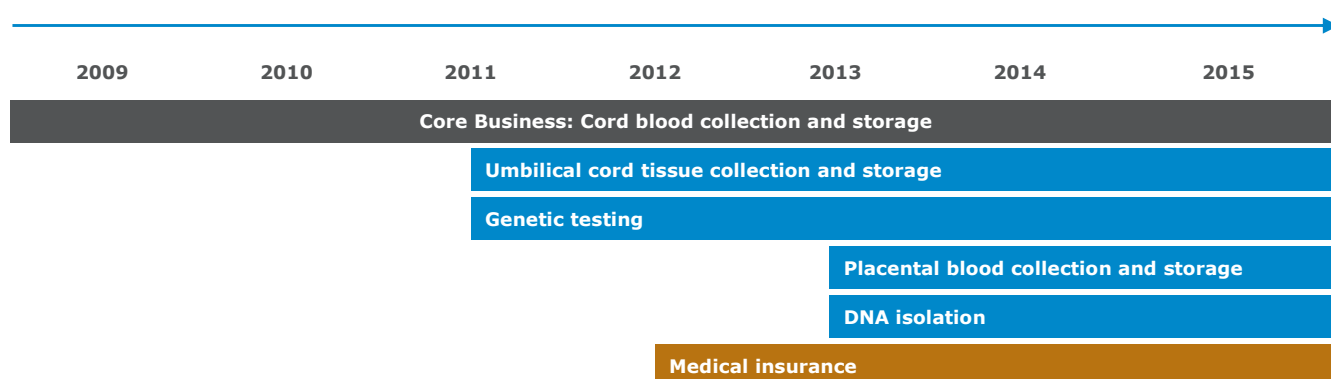
Payment Plans, Churn, Prices

PBKM offers two types of payment plans for cord blood banking services:

- (1) **Subscription plans**, where the customer pays an initial fee covering the collection kit, transport, blood processing, and one year of storage, followed by yearly payments, and
- (2) **Pre-paid plans**, where the customer makes a one-time payment for storage for 3, 5, 10, 18, 25, 26, or 30 years.

The payment preferences vary from country to country, with the Spanish blood bank offering only the pre-paid option, and yearly subscription plans accounting for an estimated 70% of all the CBU units stored by the Polish banks, and for roughly 62% of PBKM's total storage. **PBKM has a customer churn rate of less than 1% per year (losing one in 100 customers during an average year)**, with reduced household income or divorce cited as the most common reasons for contract termination. It is worth noting that the defection rate in Poland did not worsen even after PBKM had to add VAT to its banking prices following a retroactive revision to exemption rules. About 90% of PBKM's customers declare they want to store cord blood stem cells for the rest of their lives or as long as possible.

Evolution of PBKM's B2C cord blood services



Source: PBKM

PBKM has developed a range of value-added services for its blood banking customers in recent years, including DNA storage, genetic testing, the collection and storage of placental blood, and medical insurance (jointly with the insurance carrier Allianz), resulting in a rise in the average price paid for its services.

PBKM pricing plans (gross fees in PLN)

Payment Option	Initial Fee (IF)*	Basic Fee (BF)*	IF + BF vs. Red Plan	Storage Fee	Storage Fee vs. Red Plan
Red Plan**	680	1,290	-	550	-
Navy Plan**	880	2,290	+42%	690	+25%
Blue Plan**	880	2,290	+63%	690	+25%
Gold Plan**	930	3,290	+99%	780	+42%

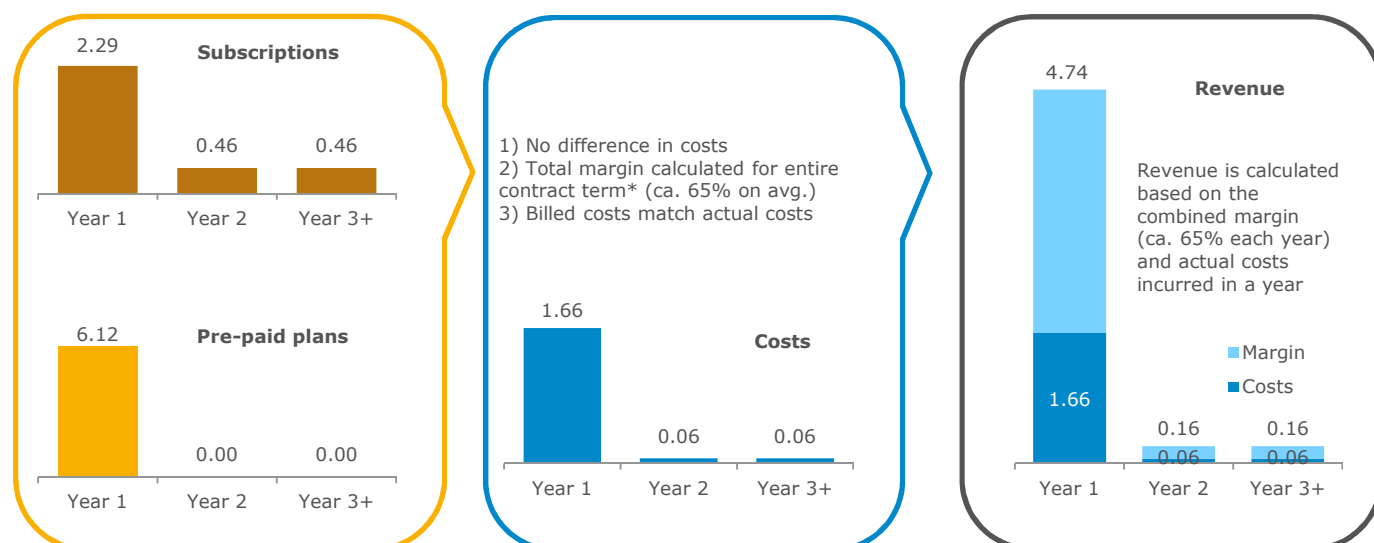
Source: PBKM sample pricing plans; *The Initial Fee is paid before the birth, and the Basic Fee is paid after the birth, **The Red Plan is for cord blood only, the Navy Plan covers cord blood and placental blood, the Blue Plan covers placental blood and umbilical cord tissue, and the Gold Plan covers all three: placental blood, and cord blood and tissue.

Accounting Policy

PBKM uses the percentage-of-completion method for revenue recognition. The percentage of completion of a contract in a reporting period is calculated as a ratio of the costs incurred to date to the total expected costs. The cost calculations account for the different types of payment plans, and they reflect the cash expenses expected to be incurred in the performance of a contract. Revenues are recognized without discounting to the present value.

This approach results in discrepancies between billed and actual revenues. To address this, PBKM uses best effort to correctly predict the future costs. PBKM divides its direct costs into two categories: (1) costs of new CBUs, and (2) costs of old CBUs. The costs of new CBUs include the initial expenses from contract execution to the blood unit being deposited in the bank, i.e. the collection kit, transport, and blood processing. The costs of old CBUs are mostly related to storage.

Example of cost and revenue recognition for blood banking contracts



Source: PBKM; Figures are estimates in thousands of zlotys

Using the cost guidance, PBKM calculates the corresponding revenues from new and existing cord blood units. If the cost forecast changes, the Company adjusts the expected revenues accordingly, and recognizes the adjustment in the total revenue for the period. The duration of the recognition periods for revenues are determined as follows: (1) for subscription contracts – the estimated subscription period so far, and for (2) pre-paid contracts – the longer of the contract term or the generally accepted average subscription period in a given market. Since the storage of cord blood is more profitable than collection and processing, subscription contracts generate higher margins over their effective terms. In 2015, PBKM took 9.9 years to be the average period of revenue recognition on a subscription contract, and it says the average recognition period for a pre-paid contract is 22 years. Expiring contracts can be renewed for one-year periods.

Estimated contract duration by country

Country	2013	2014	2015	2016
Poland	9	10	11	12
Hungary	7	8	9	10
Latvia	9	10	11	12
Romania	7	8	9	8
Turkey	1	2	3	4

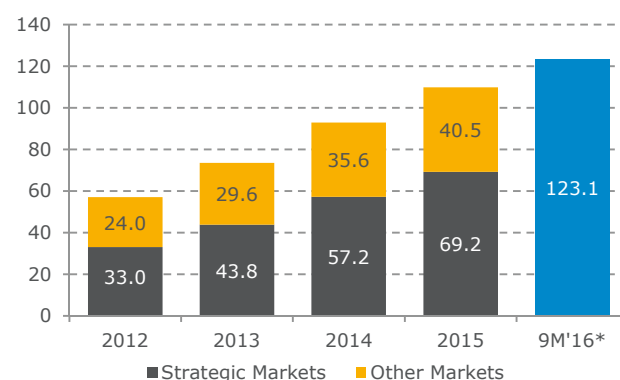
Source: PBKM

The differences between the amounts billed to customers and the actual revenues generated on subscription contracts and pre-paid contracts give rise to prepayments and accruals on a scale which makes PBKM's financial statements virtually incomparable to other similar companies.

CBU Volume

The volume of cord blood units in storage is a major growth factor for PBKM. The CBU volume has been constantly rising, and it reached 134.5 thousand as of 30 September 2016, an increase of 15% from the same period in 2015. This compares to 109.7 total samples stored as of the end of 2015, of which 69.2 thousand (63.1% of total) in strategic markets and 40.5 thousand (36.9% of total) in other markets.

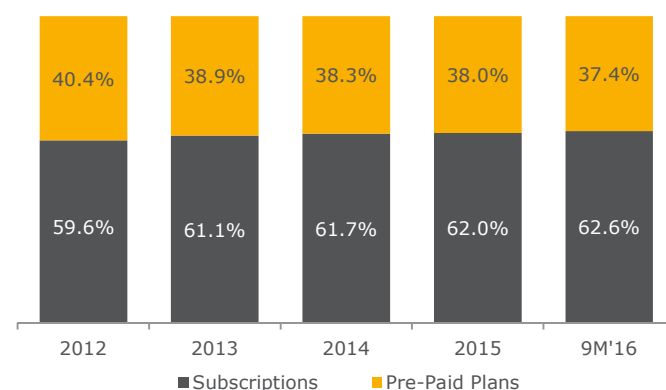
B2C cord blood units as of period-end (thousands)



Source: PBKM; *Breakdown by market not available

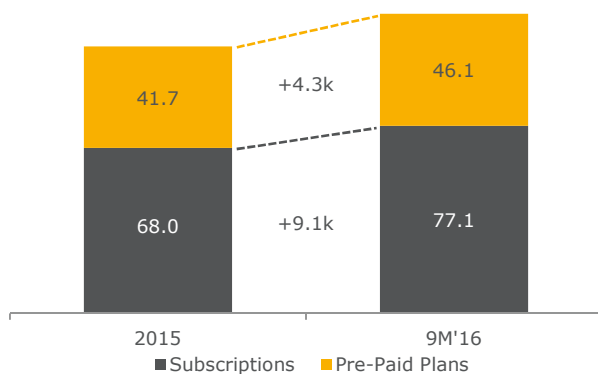
Strategic Markets account for most of the growth in PBKM's CBU collections which in 2015 amounted to 12.5 thousand (+22% y/y) after the addition of 13.7 thousand units in 2014, implying organic year-over-year growth ex acquisitions of 21%. As of 30 September 2016, 62.6% of all PBKM CBUs were stored based on subscription contracts, **and going forward this proportion is expected to rise, with positive effects on profits.**

CBU breakdown by payment plan



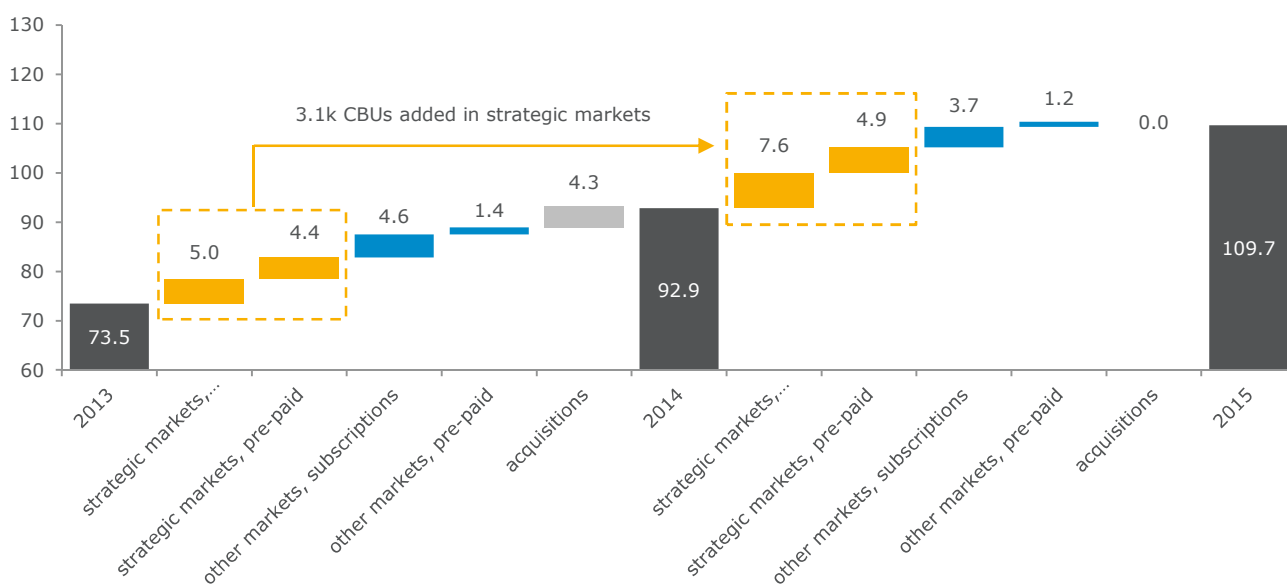
Source: PBKM

Net change in number of CBUs (thousands) by payment plan



Source: PBKM

Yearly growth in B2C cord blood unit volumes (thousands) (2013-2015)



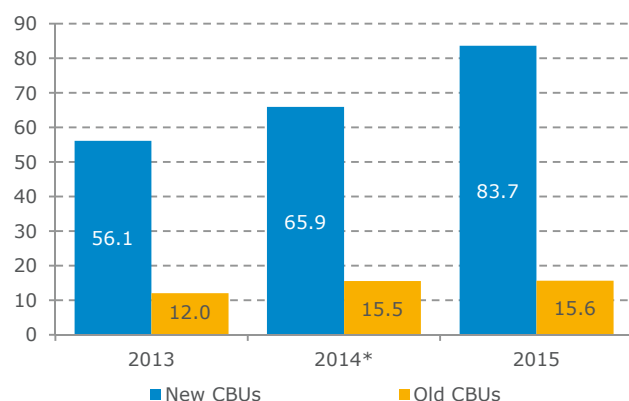
Source: PBKM

2013-2015 Earnings Results

Profits

PBKM achieved average revenue growth of 23% per year in the years 2012-2015. In 2015, 95% of the annual sales came from private cord blood banking services (the remaining 5% were provided by stem cells supplied for ATMP purposes and the sperm bank and ultrasound imaging facilities in Hungary). **Of the total banking revenues achieved in 2015, 84%, or PLN 83.7m, was generated from new cord blood units.**

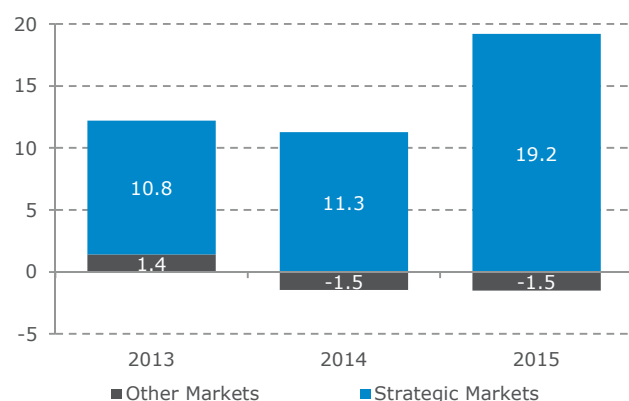
New vs. old CBU revenue (PLN m)



Source: PBKM, *2014 figures are affected by one-time tax charges

The new CBU collections in 2015 were made exclusively in PBKM's strategic markets.

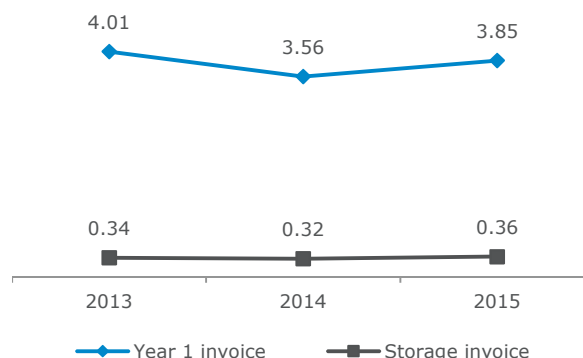
Revenue from new cord blood units (PLN m)



Source: PBKM

The decline in revenue from new CBU collections in Other Markets was due to the one-time VAT charges paid in Hungary.

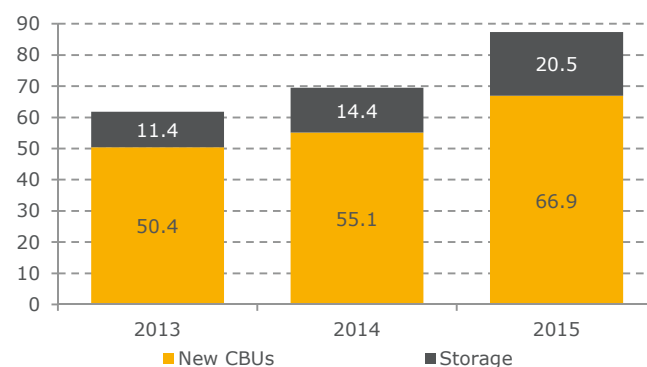
Average invoice amount in 2013-2015 (PLN 1000)



Source: PBKM

The 11% drop in the amount of an average invoice issued by PBKM in 2014 was driven by the Company's entry into Turkey, where it offered various discounts on generally lower local blood storage rates. PBKM's accounting policy causes discrepancies between billed and actual cash revenues, with the ratio of actual to billed at 83% in 2015 and 82% in 2014.

Cash revenue estimate for PBKM (PLN m)



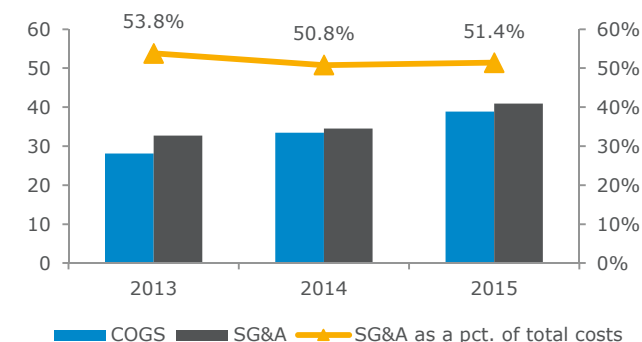
Source: mBank

The total cash revenue from new collections amounted to PLN 66.9m in 2015 (an amount 20% lower than the reported first-year storage revenue) after an increase of 21% from PLN 55.1m the year before. **The cash revenue from storage accounted for 23% of the total cash revenue for 2015 (vs. 21% in 2014). Storage is the most reliable and stable revenue component, not affected by any declines in new CBU collections. It is worth noting that, in case of a cash shortage, PBKM can address this by selling more pre-paid banking contracts.**

Costs amounted to PLN 82.3m in 2015 after a 21% increase from 2014, driven by costs of goods sold. PBKM's SG&A expenses mostly match the fixed costs, and they reflect the level of operating leverage.



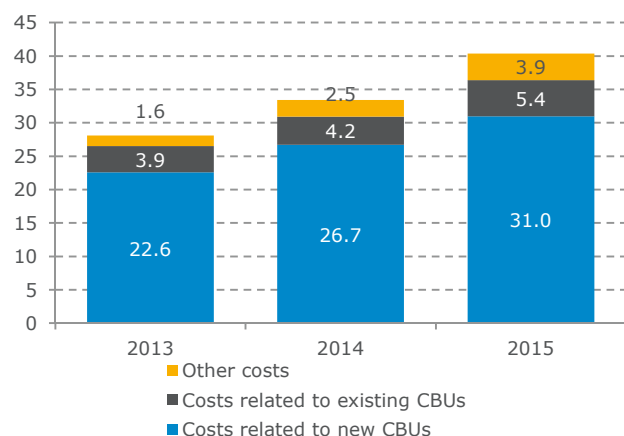
COGS and SG&A (PLN m)



Source: PBKM; *adjusted

Costs of goods sold can be grouped into costs attributable to new CBUs, old CBUs, and other costs.

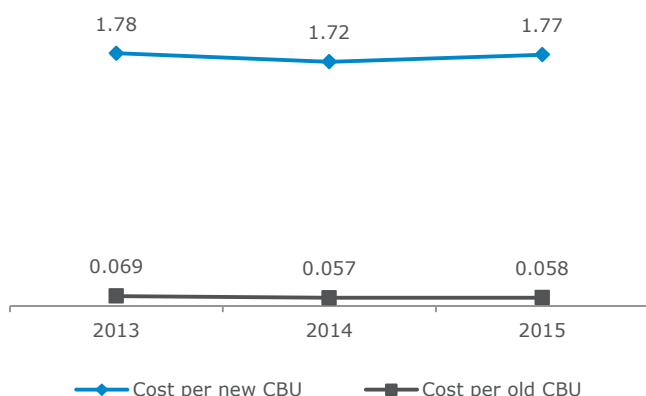
COGS breakdown (PLN m)



Source: PBKM

Using the data shown in the foregoing diagram, we have analyzed changes in PBKM's annual COGS per new and old cord blood unit.

Change in unit COGS (PLN 1000)

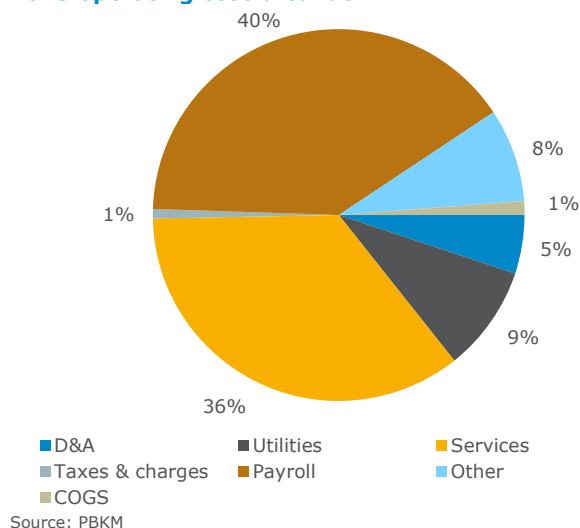


Source: PBKM

As is evident from the diagram above, PBKM experiences considerable fluctuations in the costs it incurs on a cord blood unit. The increase in 2015 in the cost of new CBUs was driven by Other Markets (in Strategic Markets the costs decreased by 5%). In 2014, the cost per old CBU declined thanks to economies of scale, followed by a slight uptick in 2015 led by the expansion of customer service functions.

Payroll and services are the two main drivers of PBKM's annual costs, accounting for a combined 76% in 2015 and 74% in 2014. Aside from salaries (PBKM employed 296 people at the end of 2015), the payroll category also includes compensation paid to medical partners, and in 2015 it posted an increase in line with a higher number of cord blood collections. The services component of the cost base comprises mainly medical consultant fees, property rental, third-party laboratory testing, and transportation.

2015 operating cost breakdown



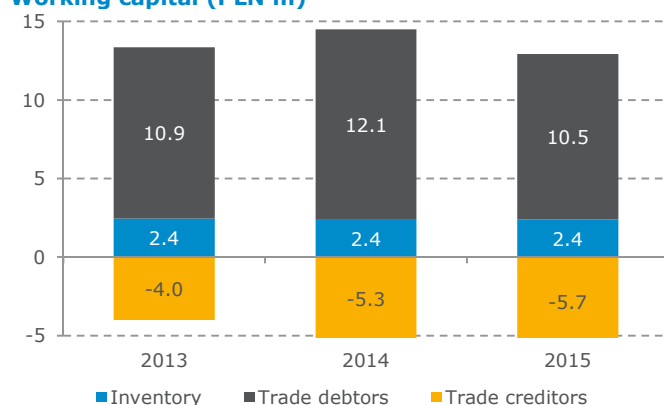
Source: PBKM

PBKM posted a loss on other operating activity in the amount of PLN 1.0m in 2015 compared to PLN 2.8m in 2014, driven by PLN 3.8m VAT adjustments following a tax inspection at the Hungarian unit KRIO which questioned the validity of VAT exemptions used from 1 January 2011. Adding to the 2014 other operating loss were receivables write-offs to the tune of PLN 1.4m. In 2013, a tax inspection of the Polish operations resulted in PBKM having to pay back VAT for 2011. The Company billed the unpaid VAT to its customers, and added the uncollectible amount (ca. PLN 300,000) to costs. Financing costs in 2015 amounted to PLN 0.3m compared to PLN 0.6m in 2014 (adjusted for a one-time payment for the shares in FamiCord Hungary acquired in 2012). **PBKM reported EBITDA of PLN 20.0m in 2015, representing a year-over-year increase of 31%, however after adjustment for one-time events (including a PLN 5.4m settlement of the 2011 stock option plan, PLN 1.5m IPO costs, and a PLN 0.5m inventory write-off), relative to the 2014 comparable base ex. PLN 3.8m VAT charges, the core 2015 EBITDA showed an increase of 44% at PLN 27.3m (vs. PLN 19.0m in 2014)**

Balance-Sheet Situation and CAPEX

As of year-end 2015, PBKM's balance sheet showed PLN 51.1m in non-current and PLN 11.6m in current prepayments on the assets side (47% of the total assets), and PLN 46.4m non-current and PLN 5.8m current accruals on the liabilities side (39% of the total). Moreover, the Company recognized a PLN 18.7m deferred tax provision stemming from the difference between revenues reported for tax purposes and actual revenues. Working capital at 31 December 2015 amounted to PLN 7.2m after a small decline from 2014.

Working capital (PLN m)



Source: PBKM

PBKM reduced its accounts receivable by PLN 2.4m to PLN 9.7m in 2015, of which overdue receivables were kept stable at PLN 3.0m PLN 3.5m in 2014.

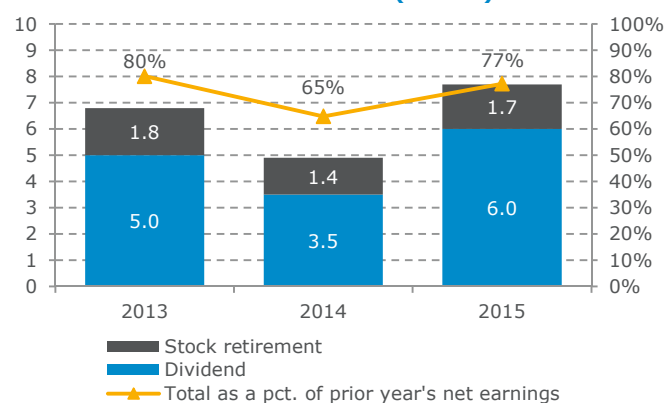
PBKM had equity of PLN 40.4m at year-end 2015, of which **PLN 18.4m were cumulative retained losses**, including a PLN 4.5m loss for 2014, booked despite an annual net profit of PLN 10m, following a dividend payout. Net cash stood at PLN 3.5m at the end of 2015.

PBKM's business is not very capital intensive, with capital expenditures reaching PLN 3.9m in 2015 (3.7% of revenue) after decreasing from PLN 5.7m in 2014 (6.7% of revenue). PBKM estimates its recurring capital expenditures at PLN 5.5m per year, consisting mainly of investment in laboratories. **It is worth noting that PBKM has the option of stepping up sales of pre-paid blood banking services during times of increased cash needs.**

Dividends

PBKM has paid dividends since 2013, and the 2016 distribution from the net profit for 2015 amounted to PLN 7m. In future years, PBKM wants to pay out up to 50% of its annual net earnings as dividends.

Dividends and stock retirement (PLN m)

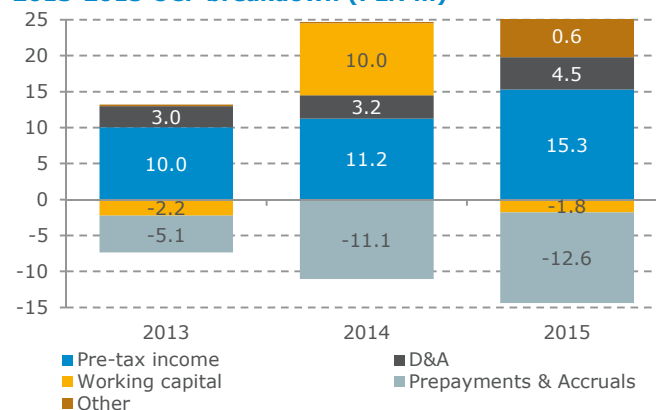


Source: PBKM

Cash Flow

PBKM generated operating cash flow of PLN 11.4m in 2015. Working capital decreased by PLN 1.8m during the year, and there was an **outflow of PLN 12.6m resulting from changes in prepayments and accruals**. Free cash flow was PLN 7.6m in 2015 compared to PLN 13.6m in 2014.

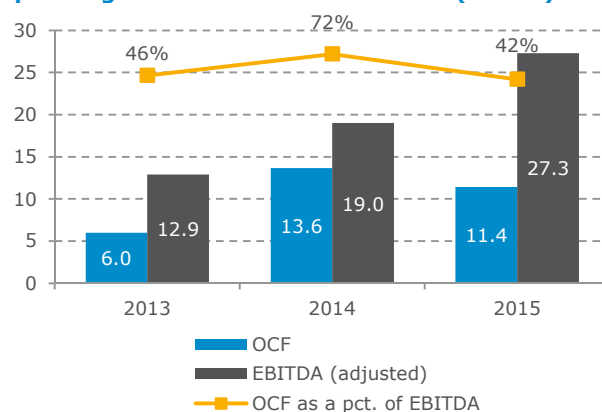
2013-2015 OCF breakdown (PLN m)



Source: PBKM

It is worth noting that the ratio of operating cash flow to adjusted EBITDA was 42% in 2015.

Operating cash flow vs. clean EBITDA (PLN m)



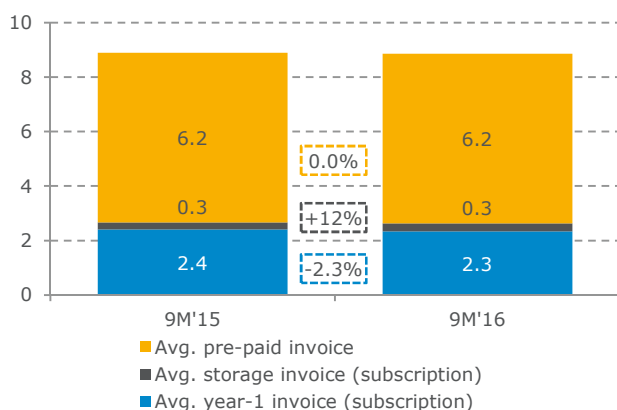
Source: PBKM

Earnings Results In 9M 2016

In the nine months through September 2016, PBKM generated sales revenue of PLN 96.1m, an **increase of 25.0% from the same period in 2015**. Of the total, PLN 73.3m was revenue from new CBU collections (+21.7% y/y), PLN 15.2m was revenue from storage (+18.9%), and PLN 7.6m (vs. PLN 3.9m in 9M'15, +96.5% y/y) came from sales of stem cells for experimental therapies. Billed revenue from **B2C cord blood unit banking** amounted to PLN 23.0m in 9M 2016 after a **year-on-year increase of 13.9%**. A further revenue breakdown reveals the following:

- Billed revenue from first-year subscription plan payments was PLN 20.3m **(+0.9% y/y)** in 9M 2016, implying a y/y decrease in the average invoice amount of 2% to PLN 2,340.
- Billed revenue from first-year pre-paid payments increased **13.1% y/y**, implying a stable average invoice amount of PLN 6,230.
- Billed revenue from storage was PLN 19.8m **(+33.0% y/y)**, implying annual growth of 12% in the average invoice amount.

YoY change in average invoice amount (PLN 1000)



Source: PBKM

Costs in the year to September 2016 amounted to PLN 73.8m, up 26% y/y. CBU collection costs at PLN 24.3m were 29% higher than in 9M 2015, implying an **increase in the cost per CBU by 21% y/y** to PLN 1,750, possibly led by upward pressure on medical partner compensation. At the same time, CBU storage costs increased from PLN 4.8m to PLN 5.1m, implying a 9% y/y reduction in the unit cost. Selling expenses posted a strong, 31.7% increase to PLN 16.4m in 9M 2016, indicating intensified sales efforts driving the growth in CBU collection volumes. General expenses increased from PLN 14.6m in 9M 2015 to PLN 15.7m in 9M 2016. Other operating activity produced a gain of PLN 0.7m, the same as in 9M 2015. **PBKM generated EBITDA of PLN 26.5m in 9M 2016, up 18.6% on the year,** with the EBITDA margin showing a contraction of 1.5ppts to 29.1%. 2016 ytd net profit at PLN 16.7m was 13.7% higher than in the same period in 2015.

Summary of 2016 Q3 and YTD earnings

(PLN m)	3Q'15	3Q'16	9M'15	9M'16
Revenue	28.1	31.4	76.8	96.1
Operating costs	-20.3	-24.4	-58.6	-73.8
D&A	-1.1	-1.3	-3.4	-3.6
Utilities	-2.1	-3.4	-6.0	-8.6
Services	-7.0	-8.2	-21.2	-26.4
Taxes and charges	0.2	-0.2	-0.2	-0.7
Payroll	-6.4	-7.3	-17.5	-21.8
Employee benefits	-1.5	-1.5	-4.3	-4.9
Other costs	-2.1	-1.9	-5.1	-6.4
COGS	-0.3	-0.5	-0.8	-1.5
Sales profit	7.8	7.1	18.2	22.3
Other operating activity	0.0	0.6	0.7	0.7
EBIT	7.8	7.7	19.0	22.9
Net financing costs	0.0	-0.3	0.1	-0.6
Pre-tax income	7.7	7.4	19.0	22.5
Tax	-2.1	-1.3	-4.4	-4.7
Net income	5.6	6.1	14.6	17.7

Source: PBKM, Dom Maklerski mBanku

Net debt as of 30 September 2016 stood at PLN 1.9m. **PBKM generated operating cash flow of PLN 9.3m in 9M 2016.** CAPEX in the period increased to PLN 7.3m from

PLN 2.2m in 9M 2015, driven by investment in Warsaw laboratory extensions, expected to quadruple the capacity for ATMP stem cell production.

CFO and in 9M'16 vs. 9M'15

(PLN m)	9M'15	9M'16
Pre-tax income	19.0	22.5
Adjustments	-11.2	-12.1
D&A	3.4	3.6
Change in inventory	0.2	0.0
Change in accounts receivable	-0.5	-0.4
Change in non-current accounts payable	-6.7	-1.5
Change in prepayments and accruals	-8.0	-14.0
Tax	0.5	-1.1
Other adjustments	-0.1	1.3
Cash flow from operating activity	8.3	9.3
CAPEX	-2.2	-7.3
Other	-0.2	0.2
Cash flow from investing activity	-2.4	-7.0

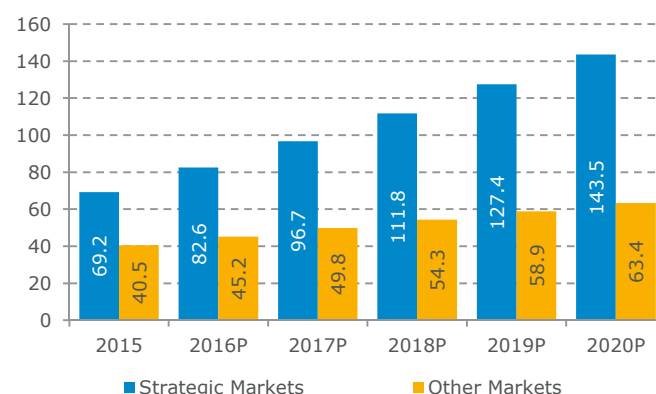
Source: PBKM, Dom Maklerski mBanku

Future Outlook

CBU volumes

We expect PBKM to have 190.6 thousand cord blood units in storage by the end of 2019, a quantity lower than the Company's own target of 200,000 CBUs. We predict that future collections will be driven primarily by Poland, where the market penetration rate with blood banking services is low at 1-3%, but is expected to increase with the increasing population and affluence of urban areas, and by Turkey, where the birth rate is the highest in Europe (with 1,337,000 live births per year) while the blood bank market penetration rate is less than 1%.

CBU growth projection (thousands of units)

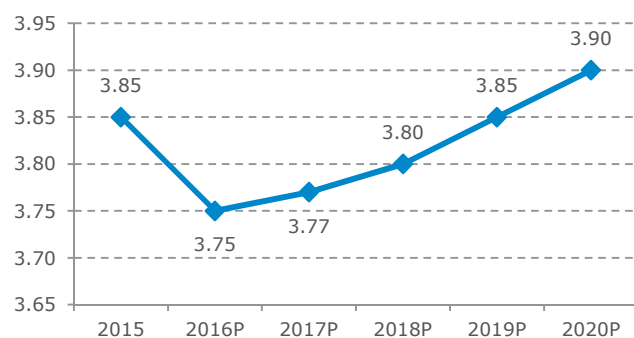


Source: Dom Maklerski mBanku

Profits

PBKM raised the prices of its pre-paid banking plans in 2015, resulting in an 8% increase in the average invoice amount for first-year services. Between 2016 and 2020, we predict a rise in the value of an average pre-paid invoice at a rate of 1.4% per year, and we assume the first-year subscription payments will remain flat due to strong competition in Spain and Turkey, and the fact that the prices PBKM charges for its services in Poland are already relatively high.

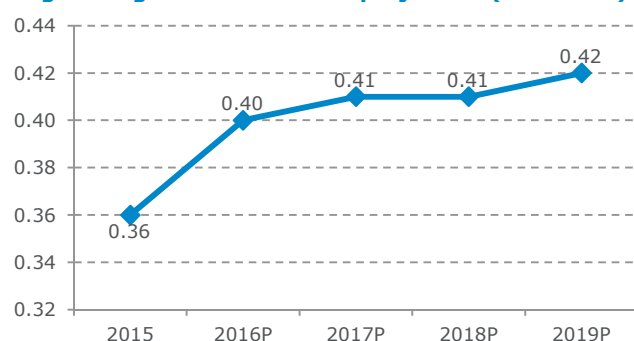
Avg. Year-1 invoice amount projection (PLN 1000)



Source: Dom Maklerski mBanku

For long-term storage services, we assume the average invoice will appreciate at an annual rate of 3% in 2015-2020.

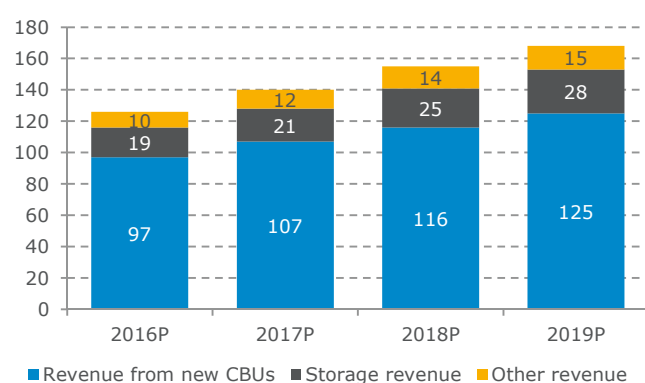
Avg. storage invoice amount projection (PLN 1000)



Source: Dom Maklerski mBanku

We anticipate that the revenue from stem cell cultivation for experimental therapies will increase by PLN 9.8m in the period from 2015 to 2019.

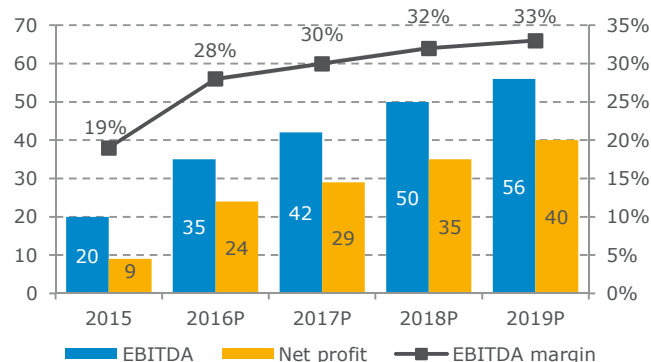
Revenue projection for PBKM (PLN m)



Source: Dom Maklerski mBanku

When it comes to costs, we assume the average first-year cost per CBU will remain stable in the forecast period, while the unit storage cost will decrease 13% in 2016 and 4% in 2017, owing to economies of scale, followed by stabilization by 2020. We estimate that the unit selling costs increased by 16% in 2016, and in the following years we predict these costs will be stable. Marketing expenses per CBU are expected to grow at an annual rate of 2%. **We predict that PBKM will grow its annual clean EBITDA margin from 27% to 33% in 2019, driven by economies of scale and lengthening storage periods.**

EBITDA and net profit projection (PLN m)

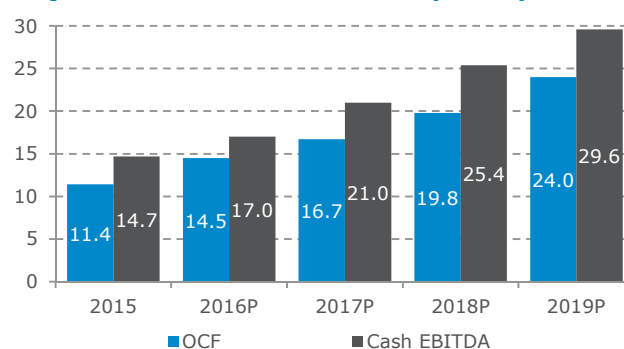


Source: Dom Maklerski mBanku

Balance-Sheet Position, Cash Flow

Despite significant fluctuations in prepayments and accruals under its accounting policy, PBKM is expected to increase its operating cash flow at an average rate of 20% in the years 2015-2019, similar to the projected rate of expansion in cash EBITDA (i.e. EBITDA adjusted for the difference between billings and revenue).

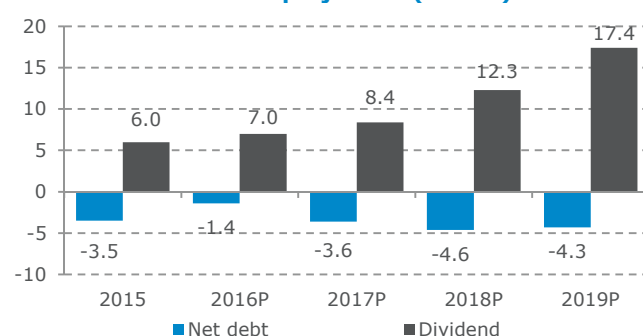
Projection of cash EBITDA vs. OCF (PLN m)



Source: Dom Maklerski mBanku, *2015 cash EBITDA figure is adjusted for one-time events

PBKM's business is not very capital intensive, and we predict that annual CAPEX in the forecast period will be in the range of PLN 5.0-7.0m, i.e. at ca. 4% of revenue. In 2016, PBKM spent an estimated PLN 4m in additional CAPEX on laboratory upgrades. We assume PBKM Hungary will pay nearly PLN 6m in VAT in 2016-2019. We put the accounts payable days at a stable 47 in the forecast period. **We expect PBKM to pay out 35% of the consolidated net profit for 2016 as dividends in 2017, and in subsequent years we assume a gradual rise in the annual dividend payout ratios to a target 50% in 2020, when the net cash position is expected to reach PLN 7.8m.**

Net debt and dividend projection (PLN m)



Source: Dom Maklerski mBanku

Valuation

Using DCF Analysis, Relative Valuation, and the Discounted Dividend Model, we set our 9-month price target for PBKM at PLN 70.00 per share.

(PLN)	Weight	Price
Relative Valuation	33%	69.3
DDM	33%	62.2
DCF Analysis	33%	66.0
	price	65.8
	9M target price	70.0

DCF Valuation

Assumptions:

- Cash flows are discounted to their present value as of the end of 2016. Equity value is calculated using net cash as of year-end 2015 (PLN 3.5m) adjusted for PLN 7.0m dividends paid in 2016.
- 2025P D&A expenses are equal to capital expenditures.
- We assume that FCF after FY2025 will grow at an annual rate of 2.5%. The risk-free rate is 3.5%, and beta is 1.0.

- Our DCF model uses cash EBIT, i.e. EBIT adjusted for differences between billings and revenues).
- Tax is assumed as provided in cash flow forecasts.
- We factor in maximum shareholder dilution through the issue and conversion of 236,700 warrants as part of the corporate stock option plan.

DCF Model

(PLN m)	2016P	2017P	2018P	2019P	2020P	2021P	2022P	2023P	2024P	2025P	2025+
Cash EBIT	12.2	14.9	19.2	23.3	28.7	29.4	30.2	30.9	31.7	32.5	
y/y change		22.44%	28.74%	21.02%	23.29%	2.50%	2.50%	2.50%	2.50%	2.50%	
Tax on EBIT	1.2	1.7	2.5	3.3	4.3	4.4	4.5	4.6	4.7	4.8	
Effective tax rate	9.7%	11.4%	13.0%	14.0%	14.9%	14.9%	14.9%	14.9%	14.9%	14.9%	
NOPLAT	11.0	13.2	16.7	20.0	24.4	25.1	25.7	26.3	27.0	27.7	
D&A	4.8	6.1	6.2	6.3	6.5	7.0	7.1	7.3	7.5	7.7	
CAPEX	-9.4	-5.8	-6.2	-6.5	-6.7	-7.0	-7.1	-7.3	-7.5	-7.7	
Working capital	-1.3	-2.7	-3.2	-2.4	-2.6	-2.6	-2.7	-2.8	-2.8	-2.9	
FCF	5.1	10.9	13.6	17.5	21.6	22.4	23.0	23.5	24.1	24.7	25.4
WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	
Discount factor	100.0%	92.2%	84.9%	78.3%	72.2%	66.5%	61.3%	56.5%	52.1%	48.0%	
PV FCF	5.1	10.0	11.5	13.7	15.6	14.9	14.1	13.3	12.6	11.9	

WACC	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	
Cost of debt	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	
Risk-free rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Risk premium	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Effective tax rate	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	19.0%	
Net debt / EV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Cost of equity	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	
Risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

FCF growth after the forecast period	2.5%
Terminal value	422.6
Present value of terminal value	202.8
Present value of FCF in the forecast period	122.7
Enterprise value	325.5
Net debt	-3.5
Other noncore assets	0.0
Minority interests	1.0
Equity value	328.0
Number of shares (millions)	4.97
Equity value per share (PLN)	66.0
9M cost of equity	6.4%
9M target price (PLN)	70.2

EV/EBITDA ('17) at target price	7.7
P/E ('17) at target price	11.3
TV / EV	62%

Sensitivity Analysis

	FCF growth in the forecast period				
	1.5%	2.0%	2.5%	3.0%	3.5%
WACC +1.0 p.p.	55.3	57.5	59.9	62.7	66.0
WACC +0.5 p.p.	59.2	61.7	64.6	68.0	72.1
WACC	63.6	66.6	70.2	74.4	79.4
WACC -0.5 p.p.	68.7	72.4	76.7	81.9	88.3
WACC -1.0 p.p.	74.7	79.2	84.6	91.2	99.4

Dividend Discount Model

Assumptions:

- The expected future dividends are discounted to present value as of the end of 2016.
- The terminal period dividends are assumed at PLN 24.8m, equivalent to 100% of 2025P FCF.

Dividend Discount Model

(PLN)	2016P	2017P	2018P	2019P	2020P	2021P	2022P	2023P	2024P	2025P	2025+
Dividend	0.0	8.4	12.3	17.4	20.1	21.7	22.4	23.0	23.6	24.1	24.8
discount factor	100.0%	92.2%	84.9%	78.3%	72.2%	66.5%	61.3%	56.5%	52.1%	48.0%	
Present value	0.0	7.7	10.5	13.7	14.5	14.4	13.7	13.0	12.3	11.6	

Cost of equity	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	8.5%	
Risk-free rate	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
Risk premium	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	

Expected growth rate after the forecast period	2.5%
Terminal value	413
Present value of terminal value	198
Present value of dividends in the forecast period	111
Equity (PLN m)	309.3
Number of shares (millions)	4.97
Equity value per share (PLN)	62.2
9M cost of equity	6.4%
9M target price (PLN)	66.2

Sensitivity Analysis

	Dividend growth in perpetuity				
	1.5%	2.0%	2.5%	3.0%	3.5%
COE +1.0 p.p.	52.0	53.9	56.2	58.7	61.7
COE +0.5 p.p.	55.8	58.1	60.8	63.9	67.6
COE	60.1	62.9	66.2	70.0	74.7
COE -0.5 p.p.	65.2	68.6	72.6	77.4	83.3
COE -1.0 p.p.	71.0	75.2	80.2	86.4	94.1

Relative Valuation

We compared the earnings multiples of PBKM (EV/EBITDA and FCF/EV) with those of a group of comparable companies comprising publicly-traded stem cell banks, and providers of medical services (including clinic operators and diagnostics providers) based in and outside of Poland.

We assigned equal weights to each year in the forecast period. The 2016E FCF of PBKM is adjusted for PLN 4m capital investment in laboratory upgrades. Note that the Company's cash flow levels are determined by the proportion of pre-paid vs. subscription cord blood storage contracts.

Multiples Comparison

	EV/EBITDA			EV/FCF		
	2016E	2017E	2018E	2016E	2017E	2018E
Cord Blood Banks						
CORDLIFE GROUP LTD	18.1	30.0	27.1	-	-	-
VITA 34 AG	9.2	8.7	5.5	2.9%	1.1%	5.9%
CHINA CORD BLOOD CORP	-	-	-	-	-	-
CRYOLIFE INC	22.2	22.8	18.8	-	-	-
MEDIAN	18.1	22.8	18.8	2.9%	1.1%	5.9%
Healthcare Providers (Poland)						
CENTRUM MEDYCZNE ENEL-MED SA	13.0	12.3	9.7	-	-	-
VOXEL SA	7.4	6.6	6.4	-	-	-
POLMED SA	-	-	-	-	-	-
MEDIAN	10.2	9.5	8.1	-	-	-
Healthcare Providers (Foreign)						
LIFE HEALTHCARE GROUP HOLDINGS	9.7	8.7	7.9	6.9%	7.7%	8.5%
NETCARE LTD	9.8	9.1	8.3	3.0%	3.1%	4.8%
CAPIO AB	9.3	8.6	8.0	3.8%	5.3%	6.1%
ATTENDO AB	13.1	12.1	11.2	3.5%	3.9%	4.4%
RHOEN-KLINIKUM AG	8.7	8.4	8.0	4.8%	5.0%	4.5%
KORIAN	11.1	10.5	9.9	1.0%	2.9%	3.4%
QUEST DIAGNOSTICS INC	10.9	10.3	9.9	5.1%	5.0%	6.3%
MOUWASAT MEDICAL SERVICES CO	21.8	18.9	16.5	-0.3%	1.3%	2.1%
FLEURY SA	11.5	9.9	8.5	4.7%	4.3%	5.0%
MEDIAN	10.9	9.9	8.5	3.8%	4.3%	4.8%
Maximum (total peers)	22.2	30.0	27.1	6.9%	7.7%	8.5%
Minimum (total peers)	7.4	6.6	5.5	-0.3%	1.1%	2.1%
Median (total peers)	11.0	10.1	9.1	3.7%	4.1%	4.9%
PBKM	7.7	6.3	5.3	3.4%	4.1%	5.1%
premium / discount	-30.4%	-37.8%	-41.6%	8.8%	1.5%	-3.8%
Implied valuation						
Value per share (PLN)	77.4	86.3	91.7	49.8	53.9	57.0
Year weight	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%
Value per share (PLN)	69.3					

Peer Group

Cordlife Group Ltd. owns and operates private cord blood banks in Asia. The Company offers the collection, processing, testing, preservation, and storage of umbilical cord blood.

VITA 34 AG is German stem cell bank facilitating the collection and storage of blood from the umbilical cord of newborns.

China Cord Blood Corporation provides umbilical cord blood storage services including laboratory testing, processing, and stem cell preservation.

CryoLife Inc. processes and preserves implantable human tissue for cardiac and vascular surgeries, as well as being a manufacturer of medical devices and stentless porcine heart valves.

Enel-Med is a Polish healthcare provider operating a network of outpatient clinics, two hospitals, diagnostic imaging labs, and cosmetic surgery and sports clinics.

Voxel is a Polish diagnostic imaging provider offering magnetic resonance imaging, computed tomography, and PET-TK and SPECT imaging.

Polmed is a private Polish provider of a full range of outpatient medical care.

Life Healthcare Group Holdings Ltd. operates outpatient and inpatient healthcare facilities and rehabilitation centers in South-Africa.

Netcare Ltd. is a South African hospital promotion and management company that owns and operates a number of private hospitals and clinics.

Capio AB is a European provider of healthcare services via a network of hospitals, clinics, and primary healthcare facilities based in Sweden, Norway, France, and Germany.

Attendo AB is a Sweden-based public healthcare provider offering primary medical care, elderly care, and family care in Sweden, Norway, Denmark, and Finland.

Rhoen-Klinikum AG operates general rehabilitation, and emergency health care facilities which offer a wide range of inpatient and outpatient medical care to patients in Germany.

Korian SA is a France-based owner and operator of healthcare facilities, medical establishments, and retirement homes.

Quest Diagnostics Inc. is a US provider of clinical laboratory services and diagnostic testing.

Mouwasat Medical Services Co. operates hospitals, medical clinics, and pharmacies in Saudi Arabia.

Fleury SA is a Brazilian diagnostics provider via a country-wide network of laboratories.

Income Statement

(PLN m)	2013	2014	2015	2016P	2017P	2018P	2019P	2020P
Revenue	72.1	85.0	104.8	125.7	140.1	154.7	167.9	179.3
change		17.9%	23.3%	19.9%	11.5%	10.4%	8.6%	6.8%
COGS	28.1	33.4	40.4	47.7	53.7	57.9	61.7	64.8
Profit/loss on sales	44.0	51.6	64.5	78.0	86.4	96.8	106.3	114.5
Gross profit margin	61.0%	60.7%	61.5%	62.1%	61.7%	62.6%	63.3%	63.8%
Selling expenses	16.7	19.1	22.6	27.4	29.1	30.7	32.1	33.1
General and administrative expenses	16.0	15.4	26.2	21.0	21.6	23.0	24.4	25.8
Profit/loss on sales	11.3	17.1	15.7	29.6	35.7	43.0	49.8	55.6
Other revenue	1.0	0.7	0.9	0.4	0.4	0.4	0.0	0.0
Other operating costs	2.3	5.8	1.1	0.0	0.0	0.0	0.0	0.0
EBITDA	12.9	15.2	20.0	34.7	42.2	49.5	56.1	62.1
change		18.0%	31.0%	74.1%	21.3%	17.5%	13.3%	10.7%
EBITDA margin	17.9%	17.9%	19.0%	27.7%	30.1%	32.0%	33.4%	34.6%
EBITDA (adjusted)	12.9	19.0	27.3	34.7	42.2	49.5	56.1	62.1
change		47.2%	43.7%	27.2%	21.3%	17.5%	13.3%	10.7%
EBITDA margin	17.9%	22.4%	26.1%	27.7%	30.1%	32.0%	33.4%	34.6%
D&A	3.0	3.2	4.5	4.8	6.1	6.2	6.3	6.5
EBIT	9.9	12.0	15.4	29.9	36.1	43.3	49.8	55.6
change		20.5%	28.6%	94.0%	20.6%	20.2%	14.8%	11.8%
EBIT margin	13.8%	14.1%	14.7%	23.8%	25.7%	28.0%	29.6%	31.0%
Income from financing activity	0.3	0.5	0.2	0.2	0.3	0.2	0.2	0.2
Costs of financing activity	0.7	1.2	0.3	0.5	0.5	0.4	0.4	0.4
Profit/loss before tax	9.6	11.3	15.3	29.6	35.8	43.1	49.5	55.4
Tax	2.1	1.4	6.2	5.6	6.8	8.2	9.4	10.5
Effective tax rate	21.4%	12.1%	40.5%	19.0%	19.0%	19.0%	19.0%	19.0%
Minority interests	0.1	0.5	0.4	0.0	0.0	0.0	0.0	0.0
Net income	7.6	10.0	9.1	24.0	29.0	34.9	40.1	44.9
change		31.8%	-8.6%	163.4%	20.8%	20.4%	15.0%	11.8%
Net margin	10.5%	11.7%	8.7%	19.1%	20.7%	22.6%	23.9%	25.0%
Shares at year-end (millions)	4.97	4.97	4.97	4.97	4.97	4.97	4.97	4.97
EPS	1.52	2.00	1.83	4.83	5.83	7.02	8.07	9.03
CEPS	2.12	2.66	2.75	5.80	7.06	8.27	9.35	10.33
ROAE	8.3%	9.7%	7.3%	16.2%	16.5%	17.2%	17.1%	16.8%
ROAA	29.0%	33.1%	24.4%	49.0%	42.8%	39.1%	35.8%	33.1%

Balance Sheet

(PLN m)	2013	2014	2015	2016P	2017P	2018P	2019P	2020P
ASSETS	91.3	115.0	133.0	164.1	187.5	218.3	250.4	284.8
Fixed assets	62.4	85.2	97.8	124.7	148.9	176.2	205.9	236.3
Intangible assets	2.6	6.2	5.9	6.6	7.3	8.3	9.2	10.1
Goodwill	15.9	18.5	18.4	18.4	18.4	18.4	18.4	18.4
Property, plant and equipment	13.0	15.5	16.1	19.7	18.6	17.6	16.9	16.2
Prepayments	28.4	40.8	51.1	73.3	97.8	125.1	154.7	184.7
Other fixed assets	2.5	4.3	6.3	6.8	6.8	6.8	6.8	6.8
Current assets	28.9	29.8	35.2	39.4	38.6	42.1	44.4	48.5
Inventory	2.4	2.4	2.4	2.6	2.7	2.8	2.9	3.0
Trade receivables	10.9	12.1	10.5	11.9	13.4	15.2	17.0	18.9
Prepaid revenues	2.9	2.9	11.6	11.5	12.4	13.5	14.6	15.7
Other current assets	3.5	4.5	3.8	3.0	3.0	3.0	3.0	3.0
Cash	9.1	7.9	6.9	10.4	7.1	7.6	6.8	7.8

(PLN m)	2013	2014	2015	2016P	2017P	2018P	2019P	2020P
EQUITY AND LIABILITIES	91.3	115.0	133.0	164.1	187.5	218.3	250.4	284.8
Equity	26.0	34.2	40.4	57.4	78.0	100.6	123.3	148.1
Long-term liabilities	49.4	55.6	70.4	80.8	88.4	96.5	106.4	116.1
Deferred tax asset reserve	7.3	11.7	18.7	23.1	28.2	33.9	40.1	46.3
Deferred revenue	39.0	41.1	46.4	51.8	55.9	59.9	63.7	67.6
Other long-term obligations	3.2	2.9	5.4	5.8	4.3	2.8	2.7	2.2
Current liabilities	15.8	25.2	22.1	26.2	21.4	21.5	21.0	21.0
Loans	3.5	1.2	0.8	5.5	0.5	0.5	0.0	0.0
Trade creditors	4.0	5.3	5.7	6.1	6.9	7.4	7.9	8.3
Taxes and charges	2.1	10.5	4.6	5.9	5.1	4.3	3.5	2.7
Deferred revenue	4.0	4.7	5.8	4.7	4.9	5.3	5.6	6.0
Other short-term obligations	2.3	3.6	5.2	4.0	4.0	4.0	4.0	4.0
Debt	6.2	3.6	3.3	9.1	3.5	3.0	2.5	2.2
Net debt	-2.9	-4.2	-3.5	-1.4	-3.6	-4.6	-4.3	-5.6
(Net debt / Equity)	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
(Net debt / EBITDA)	-0.2	-0.3	-0.2	0.0	-0.1	-0.1	-0.1	-0.1

Cash Flow

(PLN m)	2013	2014	2015	2016P	2017P	2018P	2019P	2020P
Cash flow from operating activities	5.8	13.6	11.4	14.5	16.7	19.8	24.0	28.3
Pre-tax income	10.0	11.2	15.3	29.6	35.8	43.1	49.5	55.4
D&A	3.0	3.2	4.5	4.8	6.1	6.2	6.3	6.5
Change in prepayments and accruals	-5.1	-11.1	-12.6	-17.7	-21.1	-24.1	-26.5	-26.9
Change in other current assets	-1.8	10.4	3.4	-1.3	-2.7	-3.2	-2.4	-2.6
Tax	-0.2	0.0	0.1	-1.2	-1.7	-2.5	-3.3	-4.3
Other	0.0	-0.2	0.6	0.3	0.3	0.3	0.2	0.3
Cash flow from investing activities	-10.4	-7.8	-3.7	-9.4	-5.8	-6.2	-6.5	-6.7
CAPEX	-6.4	-5.7	-3.8	-9.4	-5.8	-6.2	-6.5	-6.7
Other	-4.0	-2.1	0.1	0.0	0.0	0.0	0.0	0.0
Cash flow from financing activities	-3.8	-7.1	-8.7	-1.6	-14.2	-13.1	-18.2	-20.6
Debt	3.1	1.4	0.0	5.0	0.0	0.0	0.0	0.0
Share issue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividend/buyback	-4.8	-3.9	-6.0	-7.0	-8.4	-12.3	-17.4	-20.1
Other	-2.1	-4.5	-2.7	0.4	-5.8	-0.8	-0.8	-0.5
Change in cash	-8.3	-1.3	-1.0	3.6	-3.3	0.4	-0.8	1.0
Cash at period-end	9.1	7.9	6.9	10.4	7.1	7.6	6.8	7.8
DPS (PLN)	0.97	0.79	1.21	1.41	1.69	2.48	3.51	4.04
FCF	-4.5	5.8	7.7	5.1	10.9	13.6	17.5	21.6
(CAPEX/Sales)	-8.8%	-6.7%	-3.7%	-7.5%	-4.1%	-4.0%	-3.9%	-3.7%

Trading Multiples*

	2013	2014	2015	2016P	2017P	2018P	2019P	2020P
P/E	35.5	26.9	29.4	11.2	9.3	7.7	6.7	6.0
P/CE	25.5	20.3	19.7	9.3	7.6	6.5	5.8	5.2
P/BV	10.3	7.8	6.6	4.7	3.4	2.7	2.2	1.8
P/S	3.7	3.2	2.6	2.1	1.9	1.7	1.6	1.5
FCF/EV	-1.7%	2.2%	2.9%	1.9%	4.1%	5.1%	6.6%	8.2%
EV/EBITDA	20.5	17.3	13.3	7.7	6.3	5.3	4.7	4.2
pEV/EBITDA (adjusted)	20.5	13.9	9.7	7.7	6.3	5.3	4.7	4.2
EV/EBIT	26.7	22.0	17.2	8.9	7.3	6.1	5.3	4.7
EV/S	3.7	3.1	2.5	2.1	1.9	1.7	1.6	1.5
DYield	1.8%	1.5%	2.2%	2.6%	3.1%	4.6%	6.5%	7.5%
Price (PLN)	268.2	268.2	268.2	268.2	268.2	268.2	268.2	268.2
Shares at end of period (millions)	265.3	264.0	264.7	266.8	264.6	263.6	263.8	262.5
Market Capitalization* (P mLN)	35.5	26.9	29.4	11.2	9.3	7.7	6.7	6.0
EV (PLN m)	25.5	20.3	19.7	9.3	7.6	6.5	5.8	5.2

*assuming maximum dilution with the stock option plan (236,700 warrants)

List of abbreviations and ratios contained in the report:

EV – net debt + market value
EBIT – Earnings Before Interest and Taxes
EBITDA – EBIT + Depreciation and Amortisation
P/CE – price to earnings with amortisation
MC/S – market capitalisation to sales
EBIT/EV – operating profit to economic value
P/E – (Price/Earnings) – price divided by annual net profit per share
ROE – (Return on Equity) – annual net profit divided by average equity
P/BV – (Price/Book Value) – price divided by book value per share
Net debt – credits + debt papers + interest bearing loans – cash and cash equivalents
EBITDA margin – EBITDA/Sales

OVERWEIGHT (OW) – a rating which indicates that we expect a stock to outperform the broad market
NEUTRAL (N) – a rating which indicates that we expect the stock to perform in line with the broad market
UNDERWEIGHT (UW) – a rating which indicates that we expect the stock to underperform the broad market

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HOLD – we expect that the rate of return from an investment will range from -5% to +5%
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Discounted Dividends (DDM) – discounting of future dividends; the weak point is high sensitivity to changes in the assumptions as to future dividends made in the valuation model.
NAV – valuation based on equity value, one of the most frequently used method in case of developing companies; the weak point of the method is that it does not factor in future changes in revenue/profits of a company.

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