



DELIVERABLE D.T1.1.4 NATIONAL REPORT ON ANALYSIS OF PAPER-PLASTIC PACKAGING VALUE CHAINS AND INNOVATION SYSTEMS IN POLAND

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1. INTRODUCTION

According to the report issued by the worldwide consulting company Smithers Pira, the global packaging market will grow by 3.5% annually in the years 2016-- 2020. Its value will reach \$ 998 billion. in 2020 (USD 839 billion in 2015). However, the global dynamics is even much faster in Poland. According to the information provided by the Polish Chamber of Packaging, the Polish market is growing at a rate of about 7% annually. The Polish market of the broadly sensed packaging is estimated to be worth roughly 33.5 billion zlotys. According to the Equity Advisors advisory firm, the Polish packaging market will continue to grow dynamically until 2020 at a rate of around 7% a year, eventually reaching 46 billion zlotys.

The main driver of the increased number of packaging production will be an increased consumption, caused by the constant enrichment of the society (in 2016, consumption growth amounted to 3.6% year-on-year). The increase in the consumption of products and the use of ever smaller volumes / masses of packaged food products and the continuous development of distance sales will result in even greater usage of packaging. According to e-commerce forecasts, Poland will grow almost at the same pace as the packaging industry, only slightly ahead of the growth dynamics of the latter. The change in demand for packaging depends on numerous factors, some short-lived, others to be looked at in the long term. Lifestyle changes, resulting demographic changes are also to be considered. Marketing elements are important, as more and more companies consider packaging to be a distinctive feature of the brand, as well as environmental and technological features. This results in an increase in orders for food, ready meals or medicines that require packaging.

2. NATIONAL CONTEXT

In Poland, plastic packaging is now worth around 50 percent of the industry's revenue (almost 17 billion zlotys a year). The second place is paper packaging sector with 25%. Metal and glass packaging represent respectively 13% and 10% of the production. It should be noted, however, that Polish consumers consume less packaging per year than a consumer from Western Europe. According to the Polish Chamber of Packaging, packaging consumption per capita in Western Europe is 315-330 euros, while in Poland it is 248 euros. The major problem of the Polish market is its fragmentation. A significant portion of the sector's revenues is made up of small businesses - around 500 producers with revenues of less than 50 million zlotys annually are responsible for almost 80% revenues of the entire industry. 59 packaging

companies are making revenues in the 50-100 million PLN range. 90 companies are making even bigger profit. The number of all packaging producers in Poland is estimated at around 1000. However, there are only ten producers listed on the stock exchange: BSC Drukarnia Opakowań, ERG, Ergis, Gekoplast, Kompap, Plast-Box, SCO-PAK, Suwary and Bioerg on NewConnect, of which there are two companies producing packaging from paper and cardboard, and the others are producers of plastic packaging. Packaging effectively creates the brand image and supports the sale of products. It is a part of branding, especially in the cosmetics and luxury goods industries. Today, companies increasingly focus on higher quality and more durable packaging, and the price ceases to be a key factor in choice.

The packaging market is expanding dynamically. Technologies create more and more opportunities in the field of ennobling and decoration, which increases the attractiveness of products to end users. Business customers primarily focus on the uniqueness of the packaging and matching it to the needs of the product and the market. The packaging industry is characterized by high flexibility, because aesthetic trends tend to change with a great durability. The general rule is that customers appreciate the individual design of packaging, which should be adapted to the occasion of the purchase of the product. Ecology and compliance with safety and food contact regulations are becoming a key issue. Packaging used on the retail market should meet certain quality standards, and at the request of clients they are certified in various institutes around the world. Customers pay attention to whether products can be recycled and are environmentally friendly. Polish packaging is characterized by relatively high quality, and at the same time the cost of their production is around 20% lower than in the West.

The structure of the packaging market in Poland from the perspective of the intended use of packaging (data for 2013)

No.	Purpose of packaging	Market share in %	Market value in billion €
1.	Packaging for food and beverages	64,8	4,90
2.	Packaging for cosmetics and personal care products	6,0	0,46
3.	Packaging for medicines	7,0	0,53
4.	Packaging for industrial goods and household chemicals	22,2	1,71
In total		100,0	7,60

The structure of the packaging market in Poland from the perspective of the type of packaging material.

No.	The value of the packaging	Market share in %	
	market in billion €	2013	2020
1.	Plastics	37,3	39,8
	Including:		
	- rigid	19,6	19,2
	- flexible	17,6	20,6
2.	Paper and cardboard	32,7	36,2
3.	Metal	12,2	9,5
4.	Glass	11,0	8,2
5.	Wood	6,8	6,3

Source: Polish Chamber of Packaging

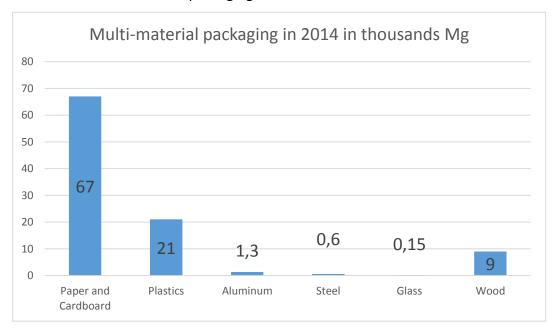
As for changes in the structure of the packaging market in the coming years, the development of the segment of plastic packaging, and in particular flexible packaging, as well as paper and cardboard packaging is forecasted. The packaging market will be dominated by food packaging. The share of packaging for industrial products will also slightly increase. A slight increase will take place in the segment of pharmaceutical packaging and cosmetics. These changes will be related to the development of investments in the economy and changes in the drug supply system.

Multi-material packaging (composites)

In the previously presented data, multi-material packaging were classified according to the mass of the dominant material, for example paper coated with plastic, where the dominant material is paper. Narrowing the problem of market analysis and the structure of multi-material packaging, it should be noted that the main multi-material packaging introduced in Poland on the market are packaging with a dominant share of paper and cardboard (i.e. cardboard for liquid food, and coated papers). Their share in the stream of multi-material packaging is estimated to be around 82% (according to data from 2014). The second largest packaging category is packaging with a dominant share of plastics. The mass of other packaging categories can be estimated at up to several hundred tonnes per year.

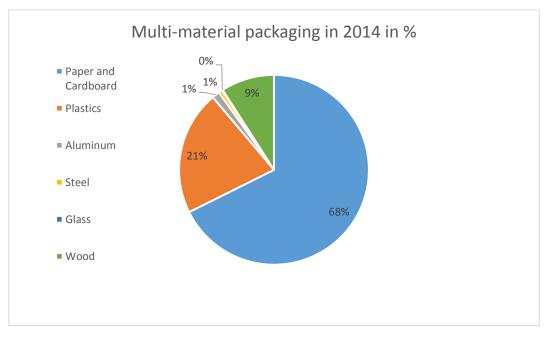
According to the official sources, the total weight of multi-material packaging introduced to the market in 2014 was set at 90,000 Mg, including multi-material packaging with a dominant share of paper and cardboard, 67 thousand Mg with a dominant share of plastic, 21 thousand

Mg of aluminium, 1.3 thousand Mg of sheet metal, 0.6 thousand Mg of glass, and 0,15 thousand Mg of wood.



Polish multi-material packaging market share in 2014 in terms of mass.

Polish multi-material packaging market share in 2014 in percentage terms.



The presented data clearly indicate that the dominant group are multi-material packaging of a combination of paper and plastic and/or aluminium. In this group, the largest share of packaging for liquid food is about 25% of the total weight of the introduced packaging on the

market. The second largest group are plastic-coated paper packaging, and the third one are plastic laminates made of aluminium. At the moment, the market share of multi-material packaging with bioplastics is minimal and difficult to determine.

3. SHORT DESCRIPTION OF PARTICIPANTS OF THE CHAIN VALUES OF MULTILATERAL PACKAGING VALUES INCLUDING BIOCOMPOSITS

Packaging has become an indispensable element of the modern world. The value chain of packaging has to take into account their complex functions. The protective function is still basic but often not the most important one.

The value chain of multi-material packaging, including biocomposites, includes:

- 1. acquiring raw materials for packaging,
- 2. design and production of packaging,
- 3. packaging of goods in unitary, collective, transport packaging and forming of loading units,
- 4. flow of packaged goods in distribution channels,
- 5. consumption of packaged goods,
- 6. collection of used or empty packaging,
- 7. recycling and recovery or disposal of packaging waste.

In Poland, there are no producers of biodegradable polymers and no resources are used for producing them. Many producers of paper packaging use the majority of secondary raw materials with a small admixture of the primary raw material. The production of multi-material packaging is carried out by a very dispersed printing industry (decorated or coated packaging) or plastic processors (coated packaging). Only in the case of cardboard and paper production, the industry is made up of the larger entities listed below.

The largest cardboard producers in Poland (their contact details and production scope is presented in Annex 1)

- 1. AQUILA WRZEŚNIA Sp. z.o.o.
- 2. AQUILA RADOMSKO Sp. z.o.o.
- 3. AQUILA SKARBIMIERZ Sp. z.o.o.
- 4. CONVERT PL SP. Z O.O.
- 5. DS SMITH POLSKA Sp. z o.o.
- 6. EUROBOX POLSKA SP. Z O.O.
- 7. FIRMA ADAMS SP. Z O.O.

- 8. MODEL OPAKOWANIA SP. Z O.O.
- 9. MONDI BZWP Sp. z o.o.
- 10. MONDI CORRUGATED ŚWIECIE Sp. z o.o.
- 11. MONDI DOROHUSK Sp. z o.o.
- 12. MONDI SZCZECIN Sp. z o.o.
- 13. MONDI WARSZAWA Sp. z o.o.
- 14. RAWIBOX S.A.
- 15. SMURFIT KAPPA POLSKA SP. Z O.O.
- 16. STORA ENSO POLAND SA
- 17. TOP-THIMM OPAKOWANIA Spółka z ograniczoną odpowiedzialnością Sp.k.
- 18. TFP SP. Z O.O.
- 19. VPK PACKAGING Sp. z.o.o.
- 20. WERNER KENKEL SP. Z O.O.

The largest cardboard producers in Poland (their contact details and production scope is presented in Annex 2)

- 1. ARCTIC PAPER KOSTRZYN S.A.
- 2. ICT POLAND SP. Z O.O.
- 3. INTERNATIONAL PAPER KWIDZYN SP. Z O.O.
- 4. METSÄ TISSUE KRAPKOWICE SP. Z O.O.
- 5. MONDI ŚWIECIE S.A.
- 6. SOFIDEL POLAND SP. Z O.O.
- 7. STORA ENSO POLAND S.A.
- 8. VELVET CARE SP. Z O.O.
- 9. WEPA PIECHOWICE SP. Z O.O.

Only at the stage of recycling and recovery of multi-material packaging waste is it possible to list the main stakeholders:

- a) four installations for recycling multi-material packaging:
- 1. Mondi Świecie SA,
- 2. Paper and Cardboard Factory "Beskidy" SA Wadowice,
- 3. TOP S.A. Tychy,
- 4. PMP Recycling in Ćmielów,
- b) installations carrying out recovery other than the recycling of multi-material packaging:

1. Veolia - SARPI Dąbrowa Górnicza,

2. Municipal waste incineration plants and cement industry (a total of about 16 entities)

In the remaining stages of the value chain of multi-material packaging, smaller entities prevail and the whole industry is focused on providing the consumers with goods tailored to their needs. Due to the limited share of bioplastics packaging and biocomposites on the Polish market, there are currently no specialized entities involved in this issue on the market.

4. LEGAL ISSUES FOR MULTI-MATERIAL PACKAGING INCLUDING BIOCOMPOSITS

The Act of 13 June 2013 on Packaging and Packaging Waste Management [1] has modified the possible ways of implementing acts by entrepreneurs, obligations related to the marketing of packaging and the necessity of packaging recovery.

The legal status before the entry of The Act of 13 June 2013 on Packaging and Packaging Waste Management (2004-2013)

Before the entry of The Act of 13 June 2013 on Packaging and Packaging Waste, the obligations of entrepreneurs in the field of packaging and packaging waste management were regulated by two legal acts: The Act of 11 May 2001 on the Obligations of Businesses Regarding the Management of Certain Types of Waste, and on Product and Deposit Fees [2] the Act of 13 June 2013 on Packaging and Packaging Waste Management [3].

The above-mentioned legal acts did not distinguish a group of entrepreneurs introducing products in multi-material packaging. The standard form of fulfilling obligations concerning multi-material packaging was usually an agreement with a packaging recovery organization, concerning the recovery of the same type of waste as the waste generated from products introduced by the entrepreneur in the territory of the country. However, this obligation was reported and implemented by taking into account the dominating mass in the packaging (most often in the case of bioplastics, it was the paper).

Current legal status

The legal status described above has been substantially modified with the entry into force of the Act on Packaging and Packaging Waste Management on January 1, 2014. At that time, a group of entrepreneurs introducing products in multi-material packaging was separated in art. 18 of the Act on Packaging and Packaging Waste Management. Since then, the Polish Chamber Polish Chamber of Packaging Recycle and Recovery (PIOIRO), as one of the seven

entities in Poland, has committed itself under an agreement concluded with the competent regional marshal of the voivodship (Marshal of the Lodzkie Voivodship) to build a collection system for multi-material packaging waste. the Act on Packaging and Packaging Waste Management, applicable from 1 January 2014, introduced new obligations regarding the handling of multi-material packaging not found within the EU [4]. Until 2013, multi-material packaging was collected and classified according to the dominant material. From 2014, the obligation to recycle and recover packaging waste resulting from the use of products packed in them should be carried out with the same type of waste. That is why PIOIRO, pursuant to Article 18 (1) to (5) of the aforementioned Act, organizes in Poland a collection system for waste generated from multi-material packaging. The multi-material packaging waste collected from the market is then sent for recovery and recycling in quantities imposed by the legislator. The introduction of the obligation to build a multi-material packaging collection system has contributed to the introduction of market mechanisms through which these packages are more efficiently collected and segregated and recycling installations increase their processing capacity. Therefore, it is extremely important as a desirable feature to be suitable for material and organic recycling. In other areas of legislation, multi-material packaging or bioplastics do not have specific regulations and they are recorded in the safety of the packaged product (food and hazardous products) as well as the protection of the environment against the product (dangerous products).

Legal basis

638).

The Act of 13 June 2013 on Packaging and Packaging Waste (Journal of Laws 2013 item 888)
The Act of 11 May 2001 on the Obligations of Businesses Regarding the Management of Certain

3. The Act of 11 May 2001 on Packaging and Packaging Waste (Journal of Law 2001 No. 63, item

Types of Waste, and on Product and Deposit Fees (Journal of Laws 2001 No. 63 item 639)

4. Obligations of entrepreneurs introducing products in multi-material packaging and dangerous materials in packaging, Ministry of the Environment, 07.01.2014

The bioplastics and biocomposites market in Poland

In Poland, it is difficult to talk about a market for products made of biodegradable plastics or packaging made from the bioplastics market and biocomposites before 2016. There are numerous marketing activities aimed at showing the advantages of this type of products, mainly in the ecological aspect, but their sale rate is still very modest.

Currently, as a result of the increased knowledge concerning plastics and their impact on the environment and human health, increased interest in this subject has been observed. It can be also concluded that the market for bioplastic packaging is developing, and the evergrowing environmental awareness translates into more and more interest from consumers. Due to the fact that this is a relatively new trend, it is currently difficult to accurately estimate it. Only a few entities producing biodegradable plastics products operate on the domestic market. Most of them are foreign companies offering products through Polish distributors. Local companies are primarily producers of traditional polyethylene film products who have decided to include also bioplastic or biocomposite products in their offer (Coffee Service Sp. Z o.o., or Pakmar Sp. O.o.).

Biocomposite materials that are currently used on the market for packaging various products are mostly laminates made by joining together two or more layers of different materials (paper + biopolymer), in which the print usually is on the inner (reverse side) of the outer film and in this the method is placed inside the laminate. Inserting inside the laminate of paint causes that during welding of the packaging material, the hot jaws of the machine are in contact with the clean surface of the film and do not stick to the micro-particles of paints or varnishes. This type of printing also protects the unprinted surface of the film when it is still wound on the roll, before contact with paints or varnishes. This surface has a direct contact with the packaged product. A very important feature of biocomposites is also the fact that in one packaging, the properties of its individual layers add up - barrier, mechanical, visual properties and weld strength.

The Polish biocomposite market is largely based on the use of NatureFlex cellulose film. Multilayer bioplastics and biocomposites consist of an outer layer of laminate in the form of a transparent film (most commonly NatureFlex cellulose). In the case of multi-layer bioplastics, this film ensures the stability of the whole packaging, good barrier properties, especially oxygen / gases / odours penetration, and a very good visual effect of the final material through the reverse printing. Such films can be offered both glossy or matte.

Several types of film can be used on the inner bioplastic layer and depend on the required properties of the final material and the product being packaged. They apply here:

 NatureFlex - cellulose film with parameters different than the film applied to the outer layer, giving a better weld strength and sealing at a lower temperature (transparent, white or metallized)

- PLA made of raw materials derived from corn maize (commonly referred to as polylactide), also known under the Nativia and Earthfirst brands
- MaterBi potato starch film
- PBSA, also known as BIO-L
- PBS
- Tipa
- Ecovio
- Ecoflex

These films, similarly to PE and CAST PP laminates, provide tear resistance of the entire packaging (especially for larger ones). They also give a good weld strength ensuring high tightness. They enable the use of such ready-made multi-layered materials not only on vertical or horizontal packaging or wrapping machines, but also to manufacture various types of ready-made bags, including the doy-pack type with a heated string enabling easy multiple opening and closing of packages. Compostable laminates can also be made into heat-treated lids for thermoformed or injected containers from compostable granules.

Biocomposites

Compostable films laminated with paper are creating biocomposites. Although almost all of paper is not fully compostable in industrial conditions, it is considered biodegradable. All layers in such laminate come from raw materials from renewable sources (not from oil). On the Polish market there are products from this group made of paper (paper, cardboard or cardboard), laminated with NatureFlex cellulose film (paper plates, various types of cardboard boxes). In addition to aqueous glue and paints, they consist entirely of cellulose-derived materials.



Fot. 1. 100% bodegradable paper plates laminated with NatureFlex cellulose foil

According to information obtained from Futamura UK LTD, the market for biodegradable and compostable packaging has accelerated significantly. This producer in previous years, even reported that its production capacities roughly reflected the market demand, and now being insufficient due to the increased number of the orders. The order structure also changed, since until now, biodegradable cellulose films of cellophane and compostable NatureFlex cellulose films have been used primarily in unprinted form for wrapping. However, they are currently used in printed versions for packing various types of articles on packaging machines. However, the trend is to use them for the production of biodegradable or compostable biocomposites, which, in accordance with the principles of the circular economy, in particular cases, replace packaging with the participation of plastics.

Below is a list of compostable films available on the market:

NatureFlex	-	Futamura	- Great Britain
MaterBi	-	BioBag	- Norway
PBSA	-	Scientex	- Malaysia
PLA Earthfirst	-	Sidaplax	- Belgium
PLA Nativia	-	Taghleef	- Dubai
PBS	-	ITP	- Italy
Тіра	-	Тіра	- Israel
BIO-L (PBSA)	-	Bio Bag	- Norway
ECOVIO (ECOFLEX)) -	Juraplast (BASF) - Germany	

As stated before, there are no producers of biopolymers in Poland. However, three companies have biocomposite products in their offer, though they are not widely used yet and have a small share in the packaging market.

The SILBO company offer during the Warsaw Pack Fair (as part of the Polish Chamber of Packaging showroom), during which the BIOCOMPACK-CE project was also presented.



Fot. 2. The SILBO company offer during the Warsaw Pack Fair (as part of the Polish Chamber of Packaging showroom), during which the BIOCOMPACK-CE project was also presented.

Annex 1 The largest cardboard producers in Poland (contact details and production scope) AQUILA WRZEŚNIA Sp. z.o.o. Dyrektor - Paweł Rogalka ul. Objazdowa 6a, 62-300 Września tel/fax 061 650 1900/ 061 650 1914 www.aquila.vpk.pl

• Tektura falista

AQUILA RADOMSKO Sp. z.o.o. Dyrektor - Paweł Rogalka ul. Przedsiębiorców 1, 97-500 Radomsko tel/fax 061 650 1900/ 061 650 1914 www.aquila.vpk.pl

• Tektura falista

AQUILA SKARBIMIERZ Sp. z.o.o. Dyrektor - Paweł Rogalka ul. Parkowa 28, 49-318 Skarbimierz tel/fax 061 650 1900/ 061 650 1914 www.aquila.vpk.pl

• Tektura falista

CONVERT PL SP. Z O.O. Prezes - Wojciech Giermaziak Czachorowo 43, 63-800 Gostyń TEL.: (+48 65) 5751229 FAX : (+48 65) 5751994 http://www.convertpaper.pl

• Tektura falista

DS SMITH POLSKA Spółka z ograniczoną odpowiedzialnością Prezes - Krzysztof Sadowski ul. 17 Stycznia 45D, 02-146 Warszawa TEL. : centrala - (+48 41) 3673900 FAX : (+48 41) 3456440 www.dssmith.com.pl

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EUROBOX POLSKA SP. Z O.O.

Prezes - Zbigniew Krzyżak Przesiadłów 1, 97-225 Ujazd TEL. : centrala - (+48 44) 7341001 FAX : (+48 44) 7341010

www.eurobox.com.pl

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FIRMA ADAMS SP. Z O.O. Prezes - Adam Skrzyniarz ul.Nowina 20, 62-081 Przeźmierowo, Baranowo TEL. : centrala - (+48 61) 6507777, FAX : (+48 61) 6507783 www.firmaadams.pl

Pudła i pudełka z tektury falistej

MODEL OPAKOWANIA SP. Z O.O. Dyrektor - Krzysztof Jażdżyk ul. Szwajcarska 1, 23-400 Biłgoraj TEL. : centrala - (+48 84) 6869100,

FAX: (+48 84) 6869200

www.modelgroup.com

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MONDI BZWP Sp. z o.o. Dyrektor - Dawid Pilcek ul. Zamenhofa 36, 57-500 Bystrzyca Kłodzka TEL. : centrala - (+48 74) 8117910, FAX : (+48 74) 8117913 www.mondigroup.com

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MONDI CORRUGATED ŚWIECIE Sp. z o.o. Dyrektor Generalny - Andrzej Archacki ul. Bydgoska 1, 86-100 Świecie TEL. : centrala - (+48 52) 5670900, FAX : (+48 52) 5670999 www.mondigroup.com

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MONDI DOROHUSK Sp. z o.o. Dyrektor - Tomasz Jasielski Brzeźno 1, 22-174 Brzeźno TEL. : centrala - (+48 82) 5661400, FAX : (+48 82) 5661432 www.mondigroup.com

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Dyrektor - Sebastian Markiewicz ul. Tarczyńska 98, 96-320 Mszczonów TEL. : centrala - (+48 46) 8572780, FAX : (+48 46) 8572781 www.mondigroup.com

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RAWIBOX S.A. Dyrektor - Krzysztof Kadys ul. Podmiejska 14, 63-900 Rawicz TEL. : (+48 65) 5462231 - 3 FAX : (+48 65) 5462234 www.rawibox.com.pl

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SMURFIT KAPPA POLSKA SP. Z O.O. Prezes - Pim Wareman ul. Klasyków 36, 03-163 Warszawa TEL. : centrala - (+48 22) 3308200

FAX: (+48 22) 3308203

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STORA ENSO POLAND SA Prezes - Tomasz Żebrowski Al. Wojska Polskiego 21, 07-401 Ostrołęka TEL. : centrala - (+48 29) 7640200 FAX : (+48 29) 7640002 www.storaenso.com

Celuloza SA nbl

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- Olej talowy
- Papier na warstwy płaskie tektury
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TOP-THIMM OPAKOWANIA Spółka z ograniczoną odpowiedzialnością Sp.k.

Dyrektor - Jeremiasz Zaleski ul. Katowicka 188, 43-100 Tychy TEL. : centrala - (+48 32) 7933300 FAX : (+48 32) 7933399 www.top-packaging.pl

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Prezes - Lucjana Kuźnicka-Tylenda ul. Katowicka 26, Dziećmierowo, 62-035 Kórnik TEL. : centrala - (+48 61) 8972302 FAX : (+48 61) 8972309 www.tfp.com.pl

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VPK PACKAGING Sp. z.o.o. Dyrektor - Paweł Rogalka ul. Objazdowa 6a, 62-300 Września tel/fax 061 650 1900/ 061 650 1901 www.aquila.vpk.pl

Opakowania

WERNER KENKEL SP. Z O.O. Właściciele: Adam i Damian Kenkel Prezes - Halina Florek Krzycko Wielkie, ul. Mórkowska 3, 64-117 Krzycko Małe TEL. : centrala - (+48 65) 5331500 FAX : (+48 65) 5331700 www.wernerkenkel.com.pl

Tektura falista

Pudła

Annex 2

The largest cardboard producers in Poland (their contact details and production scope)

ARCTIC PAPER KOSTRZYN S.A. Prezes - Henryk Derejczyk ul. Fabryczna 1, 66-470 Kostrzyn n. Odrą

TEL.: centrala - (+48 95) 7210600

FAX: (+48 95) 7524196 www.arcticpaper.com

- Papier offsetowy
- Papier do pisania
- Papier kserograficzny

ICT POLAND SP. Z O.O.

Dyrektor Generalny - Michał Wrembel ul. Włoska 3, 66-470 Kostrzyn n.Odrą TEL.: centrala (+48 95) 7336800 FAX: (+48 95) 7336801 www.ictpoland.pl

- Bibułka tissue
- Papier toaletowy
- Chusteczki higieniczne
- Ręczniki

• Nęcziliki

INTERNATIONAL PAPER - KWIDZYN SP. Z O.O. Prezes - Aneta Muskała ul. Lotnicza 1, 82-500 Kwidzyn TEL.: centrala (+48 55) 2798000 FAX: (+48 55) 2798451

- www.ipaper.com
 - Celuloza bl
 - Papier do drukarek laserowych
 - Papier gazetowy
 - Papier kserograficzny
 - Papier offsetowy
 - Tektura powlekana spód biały i kremowy

METSÄ TISSUE KRAPKOWICE SP. Z O.O.

Dyrektor - Janusz Bigus ul. Opolska 103, 05-520 Krapkowice TEL.: (+48 77) 5419100 FAX: (+48 77) 4661554

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- Papier toaletowy
- Ręczniki

MONDI ŚWIECIE S.A.

Prezes - Maciej Kunda ul. Bydgoska 1, 86-100 Świecie n. Wisłą TEL.: centrala (+48 52) 3321000, FAX: (+48 52) 3321910 www.mondigroup.pl

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- Masa półchemiczna
- Olej talowy
- Papier na warstwy pofalowane tektury
- Papier na warstwy płaskie tektury
- Papier workowy

SOFIDEL POLAND SP. Z O.O. Krajowy Dyrektor ds. Operacyjnych - Hanna Konopko-Kotarba ul. Mleczarska 31, 06-400 Ciechanów

TEL.: (+48 23) 6743100,

FAX: (+48 23) 6739400

- Serwetki
- Chusteczki
- Papier higieniczny
- Ręczniki

STORA ENSO POLAND S.A. Prezes - Tomasz Żebrowski Al. Wojska Polskiego 21, 07-401 Ostrołęka TEL.: centrala (+48 29) 7640001 FAX: (+48 29) 7640002 www.storaenso.com

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- Masa półchemiczna
- Olej talowy
- Papier na warstwy płaskie tektury
- Papier na warstwy pofalowane tektury
- Papier pakowy
- Papier workowy
- Worki
- Torby
- Tektura falista
- Pudła

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- Bibułka tissue
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- Papier toaletowy
- Ręczniki
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