Concrete roads in Poland: The case for selling non-mainstream infrastructure technologies

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CONCRETE ROADS IN POLAND: THE CASE FOR SELLING NON-MAINSTREAM INFRASTRUCTURE TECHNOLOGIES

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ABSTRACT
The paper illustrates, on the grounds of Poland's case, the concrete roads network development in a jurisdiction dominated by asphalt roads. The author reviews typical drawbacks apparent when promoting concrete roads, and identifies several most arresting phenomena that have led to the current technological stalemate. The goal of the paper is not to replicate the common and yet well-known argumentation in favor of concrete roads, but rather to deal with the investors' typical opposition to this argumentation, find out how to bypass these concerns, and finally help facilitate a major systemic shift. This paper's contribution is the attempt to universalize Polish experience, making it relevant and helpful for concrete promoters in other countries. Such a knowledge-sharing exercise should increase the success rate of salesmen based in regions overwhelmed by asphalt tradition, and let them best leverage on the available resources. This is also a source of bibliography for sales teams that plan to take off with concrete roads promotion in their countries.

KEY WORDS
CONCRETE PAVEMENTS, CONCRETE INFRASTRUCTURE, SALES MANAGEMENT, BUSINESS-TO-GOVERNMENT SALES, PUBLIC PROCUREMENT, INFRASTRUCTURAL INVESTMENTS

1. INTRODUCTION

The paper's overarching goal is to increase the odds of promotional success with relation to concrete pavements on public roads. The emphasis is put on local markets, which have hardly any experience in concrete roads construction and are seemingly reluctant to give their advantages a careful consideration. Polish territorial governments constitute an example of a market of this kind. The most important phenomena that have led to and eventually petrified the current technological stalemate are:

- Investors' resistance to changes (force of habit, undesirable uncertainty).
- Vested interests of incumbents (asphalt paving contractors).
- Technological doubts (use of concrete in urban areas, mining-induced damages).
- Financial worries ("I can't afford it" attitude, low competition between contractors may draw price higher).
- Operational worries (no experience in maintenance).

Poland's municipalities exhibit long-lasting and obstinate tradition of inviting tenders for asphalt pavements, despite their generally low quality and high life cycle costs. Few institutions take action to revert this tendency. The marketing campaign run by CEMEX and commenced in mid-2012 was aimed at the major turnaround in terms of technology used on the local roads. Throughout the analyzed period (July 2012 to June 2014), more than one hundred conventions, presentations as well as one-on-one working meetings took place. Referring to the anonymized data, the author strives to disentangle the pattern in which investors (predominantly territorial governments and administrators of local infrastructure) proceed when faced with concrete technology.

Apart from some standalone examples, such as in Schaus (2010), only scarce literature exists on business-to-government relationships and sales, and almost none published in peer-reviewed journals, perhaps due to the sensitivity of this issue or tacit knowledge that corporations wish to keep for themselves. However, the concrete roads case calls for greater engagement and knowledge-sharing among market players in order to increase the probability of winning greater

public interest and support for this technology. Perhaps the only valuable sales support material in the realm of concrete roads was disseminated online by the National Ready Mixed Concrete Association (authored by O'Neill et al. 2011). Of value are also the insights of Ochsenreiter (2011, 2014). While this very article is in much part convergent with its NRMCA-supported predecessors, it is rather tailored to the needs of less developed and less experienced economies.

The structure of this paper reads as follows. Following this introductory section, the outline of the legal, political, economic and social circumstances is delivered, under which the attempt to revert market habits was made. This is to make readers familiar with the specificity of the Polish local markets. In the third chapter, the approach towards investors and the pertinent campaign are presented. The fourth section deals with the patterns of investors' behavior in reaction to the campaign. It provides rich and robust anecdotal evidence and includes a wide range of quotations that accurately portray their attitudes. The fifth chapter that concludes the paper consists of general recommendations on how to reduce the resistance and promote concrete roads effectively.

2. POLAND'S OUTLOOK

Due to the paper's concise form, it considers solely the B2G (business-to-government) marketing. Hence, all the complexities related to B2B (business-to-business) issues are ignored here. By virtue of its nature, the B2G talks are significantly more complex than B2B negotiations.

Poland's local roads do not account for a homogenous class, but whereas their condition varies depending on road category and geography, it is generally considered substandard. The bituminous roads degrade quicker than municipalities are able to repair them. With stretched budget and, sometimes, over-indebtedness, the situation calls for alternative paving solutions.

When delineating Poland's construction industry, one has to commence with the legal environment. The legislation that defines the criteria to evaluate transportation infrastructure is the Public Procurement Act dated 2007, along with the secondary legislation. There are supplementary regulations in place in the area of environmental protection, fair competition as well as strategic blueprints on transportation infrastructure published by the Ministry of Infrastructure (2005, 2011) or its successor, the Ministry of Transport, Construction and Maritime Economy (2013).

First, the threshold for public tender used to be set very low (14,000 EUR net) and only below this threshold a simplified procedure might be adopted. This threshold was eventually raised in 2014 to 30,000 EUR. This should be beneficial for innovative behaviors of territorial governments by facilitating the simplified procedure when constructing short sections of local roads. However, it is not clear how long it will take for the local authorities to internalize the new law. Based on our market intelligence, there are public units maintaining that they are about to stick to formal tenders in order to be "on the safe side" in case supervisory bodies have reservations concerning unorthodox procurement procedures.

Second, winners in public tenders are predominantly determined by price as the sole criterion. Unfortunately, Poland's public procurement regulations have never been effective in introducing the life cycle cost analysis (LCCA) method, which is widely used in at least 17 American states and by far more often applied in the Anglo-Saxon culture and Western Europe (Bianchi and Guidi 2010 pp. 151–164; Hall et al. 2007 pp. 25–30; IPWEA 2011). Numerous publications look at LCCA from the perspective of infrastructure in general and concrete roads in particular (Akbarian and Ulm 2012; Cement Manufacturers' Association 2006; Cole n.d.; Ochsendorf et al. 2011; Scheving 2011). Despite many publications underscoring the contribution of concrete technology to superior LCCA, it is endorsed neither by the relevant ministry, nor by the General Directorate of National Roads and Motorways. However, employing LCCA is possible under art. 91 pt. 2 of the aforementioned Public Procurement Act. Nevertheless, the decisive factor in tenders is typically the sole amount of initial investment, while the other aspects (made optional by the legislator) are neglected. LCCA's variation (or generalization) is life cycle assessment (LCA). While LCCA is more of an economic nature, LCA focuses on a womb-to-tomb examination of environmental impact (Milachowski et al. 2011). Needless to add, LCA is not Poland's strong suit at all.

Third, to make matters worse, tenders usually pre-define the materials used in infrastructure projects. There is a rarely used option to set up a so-called “open” tender (also known as an alternate design & alternate bid, or a two-component bid), in which contractors decide to bid for one out of two technologies put forth by an investor. Since the prices in both specifications are likely to be very close, stipulating that an LCCA element is part of the decision making process should tip the scales in favor of concrete. However, in most cases, it is the investor or her road designer who imposes a single technology.

Important legal considerations embrace also the frequency of local elections. A long-established stylized fact says that the investment cycle by and large overlaps the electoral campaigns. In other words, incumbents that fight for being re-elected are more prone to increase financial allocation to infrastructural projects during the campaign. However, the downside is that these initiatives exhibit shortsightedness rather than long-term orientation. Such an attitude with regard to public roads is frequently exemplified by spending money on half-baked and inherently short-lived refurbishment techniques, usually in the form of thin asphaltic overlays.

Apart from irresistible attachment to asphalt, another characteristic of the Polish market is the immense popularity of paving blocks. However, the goal of a cement, RMX and aggregate producer may not be to suppress paving blocks and other precast concrete pavement solutions, as their production consumes much of the output and, in many cases, their performance is still superior to asphalt.

The key to address the company’s message effectively was to identify a decision maker in a targeted institution, which obviously does not mean that other functions do not play a role, too. As Ochsenreiter (2011 p. 10) argues, “understanding the hierarchy in your locale is a prerequisite for preparing government affairs activities that may be required for concrete to get a fair chance”. It is not uncommon, though, to interact with road authorities that lack even basic knowledge on concrete properties, in which case winning the attention of the most open-minded official (not being a road expert) first may prove fruitful if her enthusiasm radiates.

The role of road designers is also crucial. A non-negligible percentage of public entities virtually outsource the entirety of their road designing activities to an external provider. In extreme cases, public authorities are not interested at all in technology that will be applied on the road in question.

Generally the selling process may be metaphorically expressed as follows:

Table 1 – Concrete roads sales framework

	Favorable	Unfavorable
Stage 1: Planting the seeds	Introduction of the subject may be either solicited (invited offer or at least expected offer) or completely unsolicited (“cold call”). Naturally the first option bodes better for future cooperation and gives higher odds for a prospective meeting.	In many cases yet the initial attempt of injecting the idea to the investor falls through. The range of reasons for no success is broad, but it may be boiled down to “we don’t have money” or “we don’t need it” attitudes.
Stage 2: Soil testing	Investor’s unconditioned consent at this stage happens rarely, but is possible. Being sincere with the downsides of concrete technology is undoubtedly helpful, as it is ahead of similar reservations being found and raised by the investor.	Most of the times the investor that is unfamiliar with the technology will strive to be a faultfinder. Salesmen should be well prepared to address the critique on its merits and respond credibly.
Stage 3: Cultivating	It is very likely that some form of resistance or reservations may occur during the sales talks. It is of crucial importance for the sales force to assess whether this resistance is manageable or	The sales force should identify the unmanageable resistance of an investor early enough to avoid time wastage and eventual disillusion. The common set of unbreakable resistance include: hard

	not. Whatever the initial feeling, it is in most cases manageable.	budget constraints, dubious political arrangements and cliques. Of importance is also the magnitude of resistance among the decision makers. If all key decision makers cast “no” vote, the odds for success decline accordingly.
Stage 4: Harvesting	The prerequisite for a sustained and affable cooperation with a client is a good quality of a “no. 1 project”, whether it is a fully-fledged road construction or a pilot. Extra resources should be unleashed to ensure its seamless execution.	There are particular instances that impede the cooperation with the client. Apart from a clear failure of a “no. 1 project”, also: the reshuffle of decision makers (e.g. due to elections), disruptive market events or budget hardships.

While in many developed countries, supreme infrastructure authorities are fairly knowledgeable in terms of concrete pavements (see e.g. Hall et al. 2007), this is not the case of Poland. Furthermore, Poland’s Cement Association organizes roughly only one small event annually that is dedicated to concrete roads. With such a landscape, compounded by the scarce media interest, promotion responsibilities boil down to individual companies. Also, academia remains rather skeptical, while for NGOs or eco-friendly organizations concrete remains an untapped subject.

Due to limited knowledge and almost no tradition of concrete roads construction, the application is heavily hindered. This is somewhat confirmed by domestic literature on concrete roads, modest both in number and in scope of subjects (see Faleńska and Gajger 2002; Woyciechowski and Harat 2011). This outlook does not match the tendency to turn to concrete pavements again in other emerging economies like Argentina (Marcolini et al. 2010) or Hungary (Karsai et al. 2010).

The investment sentiments have become better only recently, as many motorways and expressways are built in concrete. The downside is that it strengthened the stereotype among local authorities that concrete solutions are very prestigious and they surely cannot afford them and they in fact do not need them as they are dedicated for heavily exploited pavements. However, the experiences of other countries educate about the appropriateness of concrete pavements on low-volume roads, too. Belgium itself has 6,500 km of farm and rural roads, which accounts for 50 to 60 per cent of the total in this category (Rens 2010).

3. SALES AND MARKETING APPROACH

3.1. Synopsis

The target of the company represented by the author was to popularize concrete roads in an environment that is known for an overwhelming supremacy of asphalt pavements. Initial market segmentation identified the most promising targets among territorial governments and heavy industry. Therefore, local roads as well as commercial projects for heavy duty pavements became the most sought for applications. Nevertheless, the espoused approach evolved over time and is still not carved in stone.

In general, the bulk of effort from the very beginning was put on the logical and knowledge-based side of marketing. This proved only moderately successful. Whereas many of decision makers hold rather critical opinion on asphalt technology, and admit the virtues of concrete technology, they are still unwilling to give the “new” technology a try. Therefore, more low key attitude has eventually been adopted, namely the drive towards „open” tenders and small pilot projects, accompanied by building long-lasting relationships. In other words, “getting the foot in the door” was identified as a necessary prerequisite before soliciting more demanding projects.

3.2. Means of marketing

The internal resources that have been mobilized over time now include one sales-oriented FTE plus two dedicated engineers and, in terms of machinery, a top notch RCC paver. This comes with a support of concrete technology division on an ongoing basis, and a modest promotional budget.

From its inception, the campaign relied on a set of very basic arguments concerning concrete's virtues. Some of these were reinforced by further analysis and scientific consultancy. A deal of effort was put to quantify the economic benefits of concrete pavements, including their comparable to asphalt construction cost, significantly lower maintenance costs and increased lifespan. Also, dynamic unit costs of concrete, cement and asphalt were benchmarked against each other, which showcased the incredible growth of asphalt prices in recent years, due to spike in oil prices.

Figure 1 – An illustrative summary of marketing materials used

Table 2 – Selected marketing initiatives

	Initiative	Actual vs. projected sales impact
1	Creating a dedicated brochure (4-pager)	Good to start with, but it soon became obsolete as both our stock of knowledge and selling concepts evolved.
2	Reprinting a well-known concrete roads (PCC only) tutorial under own corporate brand	In consequence of RCC being more sellable solution than conventional PCC, the booklet became rather distracting and confusing for clients.
3	Preparing a list of relevant conferences and seminars, and applying for participation	One-to-many events are perfect settings for early stage promotion, but not very useful to sustain more intimate relationships.
4	Developing a list of mail targets and unsolicited dispatch of brochures	Almost no reaction, regardless of the type of addressee (firms and governments were equally unresponsive)
5	Translating U.S. RCC promotion movies and developing a domestic RCC movie	It is good to have a movie in your marketing arsenal. A well-made tool to showcase by how little the RCC road and asphalt road construction processes differ.
6	Establishing, with a partner, a road calculator based on CANPav^{TM}, an equivalent Canadian solution (www.kalkulatordrogowy.pl)	It gains popularity and is widely considered as a reliable tool for asphalt vs. concrete cost comparison. It allows for quick, uncomplicated and objective determination of costs, and is available for free.

7	Setting up a dedicated website (www.betonowki.pl)	This was intended to be a hub for all customers and stakeholders. It has so far attracted only moderate number of visitors, but the webpage is considered an important piece of the marketing mix with significant potential for growth.
8	Campaign aimed at farmers and orchards, possibly willing to invest in heavy duty pavements	Several ads in highly specialized media remained futile. Apparently, although the audience received information about the concrete solution, it was unaware of the problem this solution was thought to resolve.

From its inception, the sales approach was run on a trial and error basis. It soon turned out that unsolicited dispatch generated almost no leads, which made it a costly and unrewarding initiative. Out of almost 400 letters and booklets sent only one invitation to an in-depth meeting was received. During follow-up calls it became clear that many institutions did not know what to do with the materials and they most likely ended up at the bottom of the drawer.

Table 3 – Sales meetings held between July 2013 and June 2015 by its type

Type of meeting	Number
Conventions of counties	12 (out of 16 possible)
Other territorial government conventions	5
Various conferences (self-organized and invited participation)	16
One-on-one meetings with territorial government investors	~100
Webcasts	5

During the period covered in this research, the works on rolled-compacted concrete went underway and the effects became more tangible as time went on, especially after the completion of four testable sections located in corporate premises all over Poland. As a result, the accent was shifted to RCC due to its unquestionable superiority over regular PCC in several aspects. The drive towards RCC, particularly its early stirrings, was very much based on the knowledge and experience of CEMEX in the United States and the materials published overseas (Luhr 1999; PCA 2005; Pittman and Anderton 2011; U.S. Army Corps of Engineers 2000) or in Norway (Melby 2005). Our campaign rests on three major arguments:

- RCC is paved using classical asphalt pavers, which ensures less intricate, faster and cheaper construction process.
- RCC gains stiffness very fast, which excludes the need to close the road for several weeks after paving stage is finished.
- Since RCC mixture contains less cement as compared with PCC, the price is highly competitive to asphalt even if LCCA is ignored.

Moreover, we use supplementary arguments:

- The key qualitative characteristics of RCC (e.g. carrying capacity) are identical to PCC – there is no compromise on quality.
- Although RCC is innovative (first project in Poland carried out in November 2010), it is not strictly true, as the very first applications were made in the United States and Canada in the 1970s. This argument is used since innovation may prove to be a two-edged sword.

With regard to concrete pavements as a whole, the auxiliary arguments are:

- Significantly lower price volatility of cement and ready mix concrete as compared to asphalt – there is no exposure to crude oil price volatility. Moreover, there is no exchange rate risk, present when importing crude oil.
- Ready mix production consumes local materials only – concrete roads support the regional economy.

- Increased safety due to brighter pavements, better surface reflectance and enlarged sight distances (Krispel 2010), as well as reduced drainage problems and no aquaplaning.
- Environmental benefits, e.g. recycling opportunity (ASAMER 2012; Kijowski 2006; Werner and Hermann 2000), lower fuel consumption (Schmidt and Ullidtz 2010; Sumitsawan 2011; Taylor and Patten 2006), reduced heat island effect in urban areas (RMCAO n.d.), cushioned global warming potential (ATHENA 1999; EUPAVE 2011).

Generally, most of these arguments can be found in most of well-known generalist publications, e.g. this issued by EUPAVE (2009). In addition to this, the most plausible applications for concrete were pinpointed, such as traffic circles (Steigenberger 2010; Tiemann 2011; Werner 2012), critical intersections, streets adjacent to heavy industry locations. Apart from public roads, cycle tracks (Smits and Geerlings 2010), sidewalks, car parks, decorative pavements and other elements of municipal infrastructure were highlighted. Future challenges include more focus on whitetopping (only one such project in Poland so far, see Kijowski 2007a) and safety barriers.

One of the vital parts of the whole effort is also the promotion of a financing scheme called public-private partnership (PPP). It now mostly serves as a door-opener, rather than a realistic procedure. Despite a considerable publicity, not even a single road construction project was completed in PPP formula in Poland.

3.3. Communication channels

Equally important as the set of marketing materials are the communication channels, through which this message is transmitted.

In consequence of limited response to mails and “cold calls”, and only moderate effect of a series of conference speeches, a new approach was undertaken. Under the Polish freedom of information legislation, each citizen has the right to inquire about public affairs. The Law on Access to Public Information was approved in September 2001 and went into effect in January 2002. The Act allows anyone to demand access to public information, public data and public assets held by public bodies, private bodies that exercise public tasks, trade unions and political parties. The requests can be oral or written. The bodies must respond within 14 days. Intermediated by a specialized company, experienced in B2G, the questions were asked in two consecutive rounds.

Table 4 – Lead generation process under The Law on Access to Public Information

	Round 1	Round 2
Questions	1. (unrelated to the issue of concrete – a distractor question.) 2. What is the estimated length of road sections planned to be built or re-built in your municipality within the next 3 years, and in what percentage will they be designed in concrete technology?	1. Has your municipality conducted any form of comparisons between asphalt and concrete technologies? 2. Does your municipality plan to give a chance to the concrete technology by setting up an “open” tender (reference to an existing example has been made)?
Administrative units covered	2,497	2,811
Number of responses	1,130	1,228
Percentage	45.25%	43.69%
Number of positive responses	141	263
Percentage of positive responses	12.48%	21.42%
Leads generated (adjusted for RMX plants coverage)	n/a	111

Before answering these questions, addressees were forced to make at least a little effort, especially when they had no knowledge on concrete beforehand. Leads generated thanks to

Round 2 procedure are fairly promising. Such an approach limits the need to use “cold calls”. When approached, decision makers usually do remember that they have once prepared a response to this enquiry and they are more willing to follow-up on this subject.

Besides the aforementioned, different channels were used to reach road designers and road construction companies (e.g. technology-oriented video conferences, one-on-one meetings, engaging them in motivation schemes).

4. INVESTORS’ RESPONSE

This section deals with the patterns of investors’ behavior in reaction to the campaign. It provides rich and robust anecdotal evidence and includes a wide range of quotations that accurately portray their attitudes.

Concrete technology is relatively unknown to most Polish decision makers, which naturally gives birth to the phenomenon of resistance to change. The reservations that investors have may be presented on a matrix below. The differentiation between reasonable and not reasonable critique is key. For a reasonable critique, the mode of dealing with it is to educate and answer – be more resilient before the next meeting.

Table 5 – Typical points of challenge raised by local decision markers in Poland

	Grounds: **Rational or justified**	Grounds: **Not rational or unjustified**
Magnitude of an obstacle: **Major**	• Mining destructions – it is probably one of the key arguments that prohibit the usage of concrete pavements. According to current academic literature, such a technology is rather discouraged when geological circumstances are not favorable. • Lack of reference objects translating to an increased risk – the unit is uneasy about being a new entrant or a first-mover in this technology.	• Construction cost – despite the efforts to minimize the initial hesitance of investors that is rooted in the deep conviction of concrete’s unfavorable pricing, the argument of price competitiveness is usually quite difficult to deliver. Moreover, the LCCA-style thinking is often ridiculed by the decision makers. • Much underground works to be held, e.g. waterworks, pipelines. This determines frequent destruction of pavement, and asphalt or block technology is generally thought to be easier to remove. While this is true, concrete is often demonized, since concrete roads happen to exist even in quite large Polish cities (Kijowski 2007b) and suitable repair techniques are in place (Schaefer et al. 2005).
Magnitude of an obstacle: **Minor**	• Uncertainty with regard to the quality of construction. • Due to Polish peculiarity, one of the most asked question is whether concrete may be placed immediately upon an existing, deteriorated asphalt pavement or a pavement made of paving blocks (which usually remembers the 1930s). The answer is usually “yes”, but the investor has to be ready to add a couple of centimeters to the road’s existing surface level, which is not always	• No possibility to use road salt – a clear myth with regard to well-designed concrete pavements, although counter opinions also apply (Kelly et al. 2010). • Noise – whereas the empirical data is mixed (DLR IfA n.d.; Haider 2011; INCE-USA n.d.; Rasmussen et al. 2007; Weyer 2010), it needs to be underlined that for local low-speed roads the issue of noise should be anyway immaterial (ACPA 2003). Even research made in Poland did not

	possible.	confirm the unconditional dominance of asphaltic pavements in this respect (Gardziejczyk n.d.; Sybilski 2005). The industry also knows solutions to reduce concrete's noise, such as diamond grinding or exposed aggregate (Cackler 2006).

The independence of a decision maker is the most important factor in B2G sales. As long as she wields power in the organization and is hard-headed enough to handle the possible critique, the concrete project has high potential for completion. Unfortunately, it is often the case that whispering "experts" in the entourage succeed in reverting the initial buy-in of a decision maker.

Several unjustified claims have been made by customers that certify to their lack of knowledge of what concrete is. The anecdotal evidence below gives a glimpse on what quotes have been made:

1. *You should not think that we will splash public money on experiments.*
   (A road professional, representative of a 500,000+ Polish city; he considered conventional PCC technology a novelty with no history)

2. *Your arguments are not true. I paved my driveway and it broke down within a couple of months.*
   (A road professional attempting, authoritatively, to make a link between a sterling concrete road and a low-quality low-cost home-made concrete she bought for private purposes)

3. *My technologist says that asphalt survives 25 years.*
   (It is obvious that asphalt providers will not surrender without striking a blow; sometimes the decision makers will receive and internalize the information which is clearly inaccurate)

4. *My major problem with concrete is the cost of horizontal signage. Can you possibly do something about it?*
   (Some decision makers are obsessed with evidently immaterial issues and find it difficult to accept their insignificance; unless it seems to be an obvious pretext to get rid of a subject in a polite way, the sales force should research the problem and deliver a substantiate reply)

5. *Isn't it the logic behind asphalt that it is flexible? When it deteriorates, it just suffices to replace the upper layer. Why change that?*
   (This road expert apparently has not asked himself a question: "why replace the upper layer when you can successfully do nothing with your road?")

6. *I pay 25 zlotys* [ca. 6 EUR – M.S.] *for 4 cm asphalt overlay. What is your price?*
   (It is a daily routine in financially constrained municipalities, which happen to have access to very cheap bituminous mixtures)

7. *Director says she is not interested.*
   (This is not a quote of any particular person but the message it conveys re-echoes frequently; unfortunately, many decision makers reject the opportunity to talk right after hearing the topic – this is an automated defense mechanism fueled by prevailing myths and stereotypes on concrete roads)

8. *There is no history behind RCC in our region.*
   (Not a novelty, none of Polish regions is experienced)

9. *Seriously, you do not think that someone will ever elect our mayor for seven terms. We do not need 30-years durability, 4 years will suffice.*

(Actually, this is very rarely expressed standpoint in such an explicit manner, although it is thought to be prevalent in public administration)

10. *Please forget about concrete roads in the coming years.*
    (This was a conclusion of a very long coaching-style monologue via telephone; the salesman did not even have an occasion to make his point)

Nevertheless, the worst meetings or calls are those when the partner gives no feedback. This happens mainly during one-to-many rather than more intimate one-to-one or one-to-few presentations. The indifference is always beneficial for the mainstream technology, therefore the main point on the agenda is to tackle the investors' indifference.

To sum up, the most frequent criticism was related to the peculiarities of maintenance. This was fueled by the fact that not many success stories are in place and the climate is widely considered to be excessively severe in Poland, which contributes to the rapid deterioration of roads once built. The investors' misconception is often that concrete roads handle volatile weather conditions worse than bituminous pavements.

Apart from negative feedback, there are several success stories in 2013, supported by a couple of anecdotes:

1. *Considering what you have just said, everyone who announces tenders in asphalt commits a criminal offence?*
   (Hardly deniable, said by a future customer during the first selling presentation)

2. *When I was a young boy I used to ride a bike through that concrete road… So… Recently I have done it again and the road has not changed much.*
   (These were the words of a very seasoned mayor)

3. *Are you sure you don't have any ready mix plant nearby? Well, you just made us very sad.*
   (Unfortunately, the geography imposes limits on ready mix transportation and most local projects are too small to be a worthwhile deal for a mobile plant)

Thus, typical points of consent were longevity, long-term profitability, as it is possible to point out many reference roads with extraordinarily long lifespan and prolonged usability (Gilles and Jasienski 2006; Snell and Snell 2002). This is instructive as it gives a clue what are the strongest undisputable qualities of concrete, allowing salesmen to effectively build upon them.

A few commercial projects have been concluded. The table below enlists key metrics that illustrate the deal.

Table 6 – Key premises underlying success stories in 2013

#	Type of investor	Type of projects	Success factors
1	A medium-sized county	2 regional roads, ~2 km in aggregate (RCC)	An "open" tender was organized, which capped the risks borne by the investor. In both tenders RCC technology proved superior both in price (90 per cent of points) and in the length of a guarantee period (10 per cent of points).
2	A medium-sized county	1 local road, ~900 m (PCC)	A buy-in of all stakeholders was ensured. Both political and road authorities lent their support to the idea. The immediate neighborhood remained positive about the road being modernized.
3	A rural municipality	1 local road, ~450 m (RCC)	A tender was organized with RCC as the only possible technology. The region was company's hot spot of marketing activities.

4	A rural municipality	1 local road, ~70 m (RCC)	A small test project was realized at a reduced fee. The region was company's hot spot of marketing activities.

All of the above success stories were supported by 10-year guarantee period that was offered to investors.

5. CONCLUSIONS AND GENERAL RECOMMENDATIONS

This paper's contribution is the attempt to universalize the Polish experience, making it relevant and helpful for concrete promoters in other countries. While it is usually the responsibility of an appropriate representative body of the cement industry or the concrete industry to take the bulk of promotion activities, as in the case of United States (National Ready Mixed Concrete Association, Portland Cement Association), Canada (e.g. Ready Mixed Concrete Association of Ontario), Germany (BetonMarketing Deutschland), Austria (Vereinigung der Österreichischen Zementindustrie), Switzerland (CemSuisse, Verband der Schweizerischen Cementindustrie), the United Kingdom (Britpave, the British Cementitious Concrete Paving Association) or the European Union as a whole (EUPAVE), all of the above being the concrete application leaders, means of marketing in Poland are hardly centralized. This effort has to be taken over by interested companies. Despite this and several other peculiarities that are distinctive characteristics of Poland, the present-day circumstances here may be also valid for other countries with asphalt being the mainstream and preferred paving technology.

As it may be derived from this paper, key problem spots are how to minimize the resistance and promote concrete roads in a thrifty and time-effective manner. Abstracting from vast marketing and psychological literature, which is undoubtedly instructive whenever selling strategies are designed, this paper focuses on delivering robust and executable suggestions

Concrete pavement in Poland is not a self-selling solution as contrary to asphalt pavements or paving blocks, which are by and large self-sellable. Based on the experienced garnered up to date, a brief list of marketing-related do's and don'ts may be crafted. Concluding tips for concrete roads sales teams are featured below under 5.1 to 5.3 headings.

5.1. Internal organization

- It seems favorable if engineering, sales and project management are closely cooperating but separate units, so that the information flow is flawless, but each of key units remains focused and avoids distraction.
- Set up your organization in such a manner that allows you to be a one-stop-shop from the perspective of your customers – this will minimize their fatigue and confusion. Regardless of your habitat (cement or RMX producer, construction company or project developer), try to get out of your comfort zone and build long-lasting consortia with subcontractors.
- Institutionalize the process of learning from your subcontractors – this may endow you with knowledge and skills needed to take control over the whole process one day.
- For engineers involved in sales it is essential to train them in basic selling techniques; by the same token, business development team should be equipped with key foundations of concrete-related technicals.
- Make sure you keep detailed records of all your meetings and phone calls. Write down the valuable information that is otherwise likely to be forgotten given a broad network of contacts.

5.2. Positioning and marketing

- Win the consent of key institutions that are respectable and objective enough to lend support for concrete technology (universities, institutes, relevant NGOs).

- Produce a concrete road specification or a printed guide and disseminate it actively among local authorities; in case the municipality had no such a document at hand before, it could readily adopt it and make use of it in the forthcoming tender.
- Personalize your presentation before each meeting or conference to make your customers feel esteemed. When on stage, stick to chair's rules and respect the allotted time limit.
- Make sure your partners understand LCCA and are aware that it costs money to own a road section and to keep it at a specified service level; create a computerized LCCA tool for them so that they may assess maintenance costs on their own.
- Do not condemn paving blocks in order not to cannibalize the market for cement and concrete.
- Do not waste your resources on unsolicited postage. Unless there is no other option to kick off, limit the amount of "cold calls".
- Invite nearby authorities to see road construction process live only if you feel utterly confident about your subcontractors and circumstances at the construction spot. Otherwise, the presence of third parties may cause undue tension.

5.3. Market segmentation

- Approach the municipalities as soon as their budgets are set and announced (usually January/February, but depends on the fiscal year).
- Leverage on the law on access to public information that is binding for your jurisdiction.
- Learn your customers' budget constraints and objectives (e.g. through screening publicly available documents or blueprints) before making the first contact.
- When segmenting the market, try to pick local leaders, people known for its out-of-the-box thinking capabilities and innovative minds. They may not only become the early adopters of concrete, but may also disseminate their enthusiasm effectively among their peers.
- When negotiating with an official, always induce her to be conclusive: a "no" answer is better than procrastination and no answer whatsoever.
- Target projects that are visible (e.g. in front of a school or a shopping mall).
- Before engaging in advanced sales talks, make sure you possess all capabilities to make a successful delivery. Do not run on empty promises.
- Do not prioritize on densely populated urban areas.

Also, pay attention on wording you use, e.g. avoid expressions such as "conventional technology" to indicate asphalt (which is in fact by far more recent than concrete) or "asphaltic concrete", as this indicates that there is some "concrete" element in asphaltic layers. It is also risky to refer to concrete technology as "new" or "innovative".

All of the above is a part of framework, in which three tasks should be addressed and coordinated: "directing the rider", "motivating the elephant", and "shaping the path" (Heath and Heath 2010). With concrete technology, the "rider" and "path" parts are relatively straightforward thanks to numerous insightful publications and long-lasting track record of concrete pavements. It is by far more complicated to ignite the desire among decision-makers, i.e. to attract the "elephants" that sit in their minds and are unwilling to depart from their entrenched positions. However, with a persistent and far-sighted trust-building sales process, concrete promoters are not doomed to failure.

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