**Project Initiation Document: Bioceramics**

Deadline: 12pm 14th December, Monday

* Have a draft by Monday (7th) Morning
* Send an email (with the draft) to inventor and supervisor to agree on the time of first meeting

Omar

Elena

Spyros

**Project Name: Bioceramics**

Names of student team members: Elena Gelžinytė, Spyros Ploussiou, Omar Darwish, Akhila Kadgathur Jayaram

**Tasks of first meeting on PID:**

* Better understand what the material’s specifications are/could be. For example, is the bioceramic just a sheet-like material to be layered with a support, or is it thick enough to support itself. Will help with technical properties that a target product class requires (one of the questions the inventor wants answered)
* Choose specific product
* Define the market niche
* Define target audience
  + Fire-prone regions
  + Regions with strict health and safety/fire safety regulations
  + California: have fire problems, are very open-minded towards innovative ideas and are rich (and similar fire-prone areas, Australia?)

**Questions for first meeting on PID:**

* Market Niche

For now they identified the woodpanel industry and some of the challenges that cambond can address (i.e reduced manufacturing costs) - would be good to identify current trends in the market we’ll be looking at (i.e increased environmental awareness, tighter regulatory framework, perhaps revised product specifications)

They specifically say that they are looking to build new manufacturing plants in EU AND UK so we could focus in these regions first before considering the US perhaps

**What product do they want us to look at?**

**How flexible is their technology with regard to feedstock?**

**Can we have more than three supervisions/two inventor meetings?**

**Project Brief**

(this is a short statement of what your team intends to research and deliver for the project)

We aim to research the current market for flame retardant construction materials and ceramic tiles in the UK and assess how Cambond can position their eco-friendly and economical bioceramic material in order to enter the UK market. Also, we plan to investigate how to best position the products in question (i.e targeted marketing), we would look at the degree of awareness in sustainability and need for less toxic products in the relevant market. Finally, might take into account any considerations/issues (public perception, premiums that can be charged) that arise from using waste streams to produce the sustainable product.

Also identify the challenges that Cambond can or bets that it can address in the markets relevant to the product classes we narrow it down to (i.e for flame retardant boards it bets it can reduce the associated manufacturing costs of the products, tackle the issue of toxicity by avoiding the need for fireproofing agents, tackle the issue of possible increased environmental awareness in this market segment and issues pertaining to end of product life (disposal) and safe handling of disposed/used products

*(From Akhila) We aim to research the current market for flame retardant construction materials and ceramic tiles in the UK and assess how Cambond can position their eco-friendly and economical bioceramic material in order to enter the market*

*We might also want to look at properties and specifications (eco-friendliness, toxicity, recyclability, etc), of Cambond and competing products and decide on the best spin to market to the target audience. (Have to down market niche and define target audience for this) To help them in better positioning the products they have in mind (i.e targeted marketing). Would be good to look at the degree of awareness in sustainability and need for less toxic products in the relevant market.*

*For positioning the products possible public relation scenarios can be explored (i.e potential partnerships, exploit the influence another business with aligned interests may have in the market of interest)*

***ALSO THEY WANT TO KNOW IF ANY ISSUES*** *MAY ARISE DUE TO USING WASTE STREAMS TO BUILD THESE PRODUCTS (PERHAPS PUBLIC PERCEPTION, PREMIUMS THAT CAN BE CHARGED) - WE SHOULD CLARIFY WITH THEM THE TYPES OF WASTE THEY ARE CURRENTLY USING AS FEEDSTOCK (i.e* ***SAAPI****) OR ARE PLANNING TO USE*

**Project Scope**

(succinctly explain what you consider to be in scope and out of scope for the project in the given research)

Some of our thoughts on what could be the scope of this project (market niche, target audience).

Suggestion 1:

Product: fireproof alternative to medium density fibre board

Route 1: B2B -> companies building large-scale commercial buildings and/or multi-apartment housing -> companies needing to comply to strict fire safety regulations -> Mainly UK

Route 2: B2C -> (New) homeowners -> homes in fire-prone areas -> (possibly) strict fire safety regulations -> (possibly) innovation-savvy regions -> California, Australia, South African Republic

Suggestion 2:

From my understanding there could be two defined pathways for producing 2 different classes of products:

* PMS, lignin components and their cambond resin → Boards and panels for construction
* Cambond resin, ash and fibrous biomass → ceramic type products

Suggestion 3: Focus on both general and niche applications of flame retardant materials:

* External cladding
* Internal use for walls (hardboard and plasterboard)
* Flooring
* Roofing
* Fire resistant doors (particularly important for offices, labs, hospitals, schools, apartments, warehouses, retail sector)
* Containers/cabinets to enclose flammable materials
* Casing for electric meters (usage in energy industry)

In scope:

* Understand technology: cambond resin, and current technology for construction
* Understand IP, patents, and so on
* Possible applications in the market
* Interview people
* Market research again
* Make business model canvas
* Business Plan
* Interview people
* Marketing

Out of scope:

* Cosmetics
  + *Ceramic tiles market. Could be worth it as we are looking into the construction industry again + they mention it as one of their targets (governmental regulations pertaining to the carbon emissions in the production of ceramic tiles hamper the market growth -* [*https://www.mordorintelligence.com/industry-reports/global-ceramic-tiles-market*](https://www.mordorintelligence.com/industry-reports/global-ceramic-tiles-market)*). For residential and commercial buildings for durability and crack resistant nature. Asia-Pacific is the fastest growing market and is expected to dominate the global ceramic tiles market throughout the forecast period. China and India dominate the global ceramics market in terms of volume. [FORECASTS FOR 2020-2025]*

**Project Deliverables**

(after reading the student handbook check your team’s understanding of the project deliverables. Explain what you hope to deliver.)

* 3000 word report on market feasibility
  + *Cover the bullet points in the project description (within our project scope/market niche/customer profile, should talk this over at meeting with Gareth and Peter):* 
    - *The classes of products in the market (what are different products made off, do they have chemical additives)?*
    - *What technical strength, water resistance, fire resistance) do these classes have?*
    - *Do these classes relate to pricing premium?*
    - *Is there a growing market awareness around the environmental issues around these products?*
    - *Are there particular environmental attributes, certifications, public relations strategies that would be beneficiel in posting these products?*
    - *Would there be issues that might arise in using waste streams to make these products and how could we address them?*
  + *Cover points suggested in the handbook (see Project Methodology/Elena’s addition)*
  + *Topics covered over supervisions (more detail in students handbook)*
    - *Business opportunity*
    - *Value proposition*
    - *Routes to market*
    - *Market research*
    - *Potential customers*
    - *SWOT analysis*
    - *Competition*
    - *Customers*
    - *Suppliers*
    - *Replication*
    - *Optimal business model*
    - *Potential partners?*
    - *Any early adopters that can validate the market need?*
* 2-minute video infomercial on product
* 5-minute pitch on product

**Project Methodology**

(explain how the team intends to go about the project work including work streams and deadlines. You may provide a Gantt chart or similar).

Work Stream 0: Understanding the product, defining the market scope

* Technology introduction, the attributes and the advantages.
* Gaps between the current position and minimum viable product.

Work Stream 1: Understanding the current market segmentation and existing competitors/key trends

* Competitor landscape

Work stream 2: Analysing gaps in current market and opportunities for Cambond

* Commercial advantages

Work stream 3: Looking at various aspects of marketing mix (4Ps - Product, place, promotion and price), regulatory regimes

Work stream 4: Final recommendations for product positioning - B2B or B2C? Flame retardant board still viable or does Cambond need to pivot? Do we focus on flatboard or finished products?

* Executive summary
* Potential business models.
* Summarise the commercial potential of the technology.
* Recommendations for the inventor(s). It may be that the market for the technology is limited; this is also a valid conclusion to draw.

Elena:

We might find it useful to focus on what they’re asking us to do in the Commercial Feasibility Report and divide up tasks based on that (with multiple people/everyone focusing on more time-consuming tasks, etc). Namely:

* Application, industry and market place

* Primary market research analysis; pricing.
* Intellectual property position.

Supervision times:

1st: week starting on 14th December.

2nd: half-way through, on weeks starting 18th January. Discuss: first draft of the commercial feasibility report; plan of action for pitch deck and video

3rd: two weeks before pitch night - a week starting on 15th . Discuss: Final drafts for report, pitch deck and video

4th: a week before pitch night - week starting on 22nd February (Pitching workshop on Wed 22nd Feb)

Inventor meetings:

1st: Before 2nd supervision

2nd: After second supervision

**Time Allocation**

(agree how much of each team members personal time can be spent on the project. This is so everyone is clear on what other demands there are on their time. Add each team member’s name and a line of explanation).

Akhila: can spend 5-10 hours per week, have two other volunteering commitments that take 3-5 hours per week

Elena: The handbook suggests 50 hours in total for the research bit and there’s roughly 12 weeks until 3rd of March, so not taking into account lectures and supervisions that leaves 4ish hours per week. I expect to spend some more time before the deadlines, but otherwise I would be reluctant to spend more time than that.

Spyros: Can spend approximately 5 hrs per week excluding supervisions and workshops. Can’t do more than 8 hrs due to other masters degree and extra-curricular activity commitments

5 hours per week would be ideal, December 14th to 29th probably even 8 hours per week

**Team Lead**

(who will be your team lead? How did you settle on this person? The task for the team lead is to press through the project methodology and keep everyone to schedule. The lead is not there to influence or control the direction of the project. They are providing a team service).

**Team Communicator**

(who will be your team communicator? How did you settle on this person? Describe how you plan to communicate within your team, with your supervisor and your inventor).