The oldest building material – the material of tomorrow

Earth: a truly ecological material

A sustainable life cycle:

- Reduction of raw material resources
- Reduction of waste

A limited impact on climate change:

- Reduction of CO2 emissions
- Reduction of energy consumption

Solution BTC: -60% in CO2 emissions today!
A building material with a proven performance

**Earth**: high performance material

Thermal capacity:

A true asset for **summer comfort**!

> x 3

- Earth
- Concrete
- Traditional brick
- Wood

The air humidity regulation for an increase of the human comfort zone by +2°C in summer and -2°C in winter!

**low-tech air conditionning** by using the power of evaporative cooling generated by the variation of air humidity

**NO endocrine disrupting chemicals**

**Fire resistant**
Using earth materials

Building with earth: creating jobs on a local scale

Inflation on conventional solutions

Potential of earth building

Towards a competitive offer

Solution cost composition

- Salaries
- Energy
- Raw Materials
Briques Technic Concept

Our solution for Mining the future
Making tunnels and sell earth bricks

*It is a good idea.....*

What never happened in Las Vegas, will happen in Europe!
Briques Technic Concept

WHY?
**Briques Technic Concept**

*The walls of tomorrow – ready to use*
Our offer today

A true industrial approach – for a competitive solution
Our offer today

More speed for the job site – Prefab elements to speed-up installation

- > 50 m² / day for our first project!
- Speed more than x 4
- Improved handling and logistics
Our offer today

Certified solutions – speed-up the design process

ATEx

n°2957-v1

Load bearing masonry up to 3 floors

Façade and interior walls

2021

DIN 18940

Load bearing masonry up to 4 floors
Includes pure earth bricks!

2022

2023
Briques Technic Concept

HOW?
What we did

Formulation of your resource – confirmed feasibility

Supplemental Material 3: Solution Relevance

1) Relevance of the process with respect to material to be excavated

The relevance of the solution is demonstrated by the following facts:

1. The targeted volume of 360,000 cubic meters represents 83% of the upcoming excavated geological material and Haas et al. (2020) estimated that various clayey and loam geological materials will be available (page 5).

2. The material (already excavated) that we are referring to below seems very likely to represent the same weak and very weak materials.

3. The full-scale performance of the soil stabilizing (see main application form 2) below) indicates an amount of corrective clayey material.

4. The corrective element found in the soil is no specificity. It can be considered in average of the kind of material that is found, hard to recycle outside of our process and of negative value. For these reasons we assume that something equivalent will also be available on the worksite of the FCC.

To support this 4th point, we now give some more details about this clayey material and especially about its grading curve and clay activity as well as the effort of the correction on the material already excavated on the future FCC’s worksite.

Usual criteria for basic materials to make compressed raw earth bricks

According to the French XP-P 13-901 standard published in 2000, a soil can a priori be used to manufacture compressed raw earth bricks if the following conditions are satisfied:

- The grading curve of the prepared material must be embedded in the range below:

OK for load bearing walls according to our certification (ATEx)
Permanent installment of a production capacity

Building a factory with a capacity of up to 60 kT / year

**FLEXITERRE**
- Capex: 1.2 M€
- Surface: 3.400 m² to 4.400 m²

**NOVATERRE**
- Capex: 2 M€
- Surface: 4.500 m² to 6.500 m²

**ALL TOGETHER**
- Capex: 3 M€
- Surface: 6.600 m² to 9.600 m²
- Production capacity: up to 30 kT / year

18 months to start up the production
+ 12 months to be in regular operation
Sales and development

**Sell the bricks and blocks !**

- **CERN buildings as prototype**
- Additional certification
- Additional evidence of **performance**
- Promote the solution in the region with its 2 M population

Execute the **Business Plan**

<table>
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<tr>
<th>Business Plan Material Producer</th>
<th>N</th>
<th>N+1</th>
<th>N+2</th>
<th>N+3</th>
<th>N+4</th>
<th>N+5</th>
<th>N+6</th>
<th>N+7</th>
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<tr>
<td>Sales in k€</td>
<td>4 950</td>
<td>4 950</td>
<td>5 002</td>
<td>5 246</td>
<td>5 505</td>
<td>5 780</td>
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<td>Cost in k€</td>
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<td>2 005</td>
<td>2 062</td>
<td>2 123</td>
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<td>999</td>
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<td>1 039</td>
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<td>1 940</td>
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<td>2 280</td>
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<td>2 670</td>
<td>2 885</td>
<td>3 114</td>
<td>3 359</td>
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And now?

Just Do It!

If this is working.....

....we should also be able to do this!
Thank you, Merci & Dankeschön