

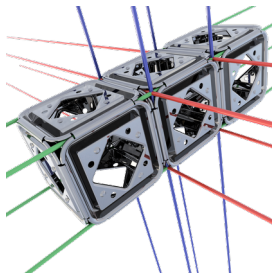
BUSINESS & SUSTAINABILITY PLAN

A spatial substrate for a hundred years of change

Guiding Idea

FABETS creates a durable load-bearing structure as the substrate of a constantly changing product world. Its physical basis is one standardized wall module made from 0.3 mm sheet steel. Six modules form a hollow 75 mm voxel; voxels connect into prestressable beams and spatial structures. Above this stable substrate, an evolving vocabulary of functional elements, panels, interfaces, materials and digital tools can develop. An explicit grammar governs connection, prestressing, branching, service routing and reconfiguration; expression remains open to Contributors, local craft and future applications.

The goal is a durable culture of use.



Structural core
CAD study



Material vocabulary



Living applications

SUBSTRATE

From Latin *substratum* — “**that which is laid underneath.**”

A stable basis that lets changing things grow, connect and take form above it.

Management Summary

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Management Summary

FABETS develops a reusable load-bearing substrate for adaptive furniture, displays, exhibition architecture and lightweight spatial systems. Its core is one 0.3 mm sheet-steel wall module designed for progressive die stamping. Six walls form a hollow 75 mm voxel. At a design stacking pitch of 1.8 mm, they occupy 14.4% of the assembled voxel volume before packaging. The elements are designed for tool-free assembly in a flexible state and internal prestressing with Dyneema ropes into a stiff working structure. Load limits and repeat-assembly performance remain to be established by testing.

FABETS is designed around useful life rather than product replacement. The durable structural substrate carries changing functional and material layers, including panels made from recycled, recovered and local materials. It supports disassembly, repair, reconfiguration, compact transport and storage, clean material separation, local surface renewal and repeated reuse. The 100-year horizon is a design rule and ambition, not yet a verified lifetime claim.

A SUBSTRATE BENEATH A SHARED LANGUAGE

Substrate: one standardized wall module forming hollow, prestressable voxels and load-bearing structures; intended as the durable physical basis.

Vocabulary: changing functional elements, adapters, panels, local and recovered materials, printable extensions and digital tools.

Grammar: rules of snap-fit assembly, prestressing, branching, service integration, disassembly and reconfiguration.

Expression: furniture, lighting, displays, spatial structures, local material cultures and new applications. Contributors decide what the language can become.

The substrate provides repeatability, precision and compatibility; vocabulary and grammar can evolve, and expression remains open. FABETS Studio is already online at fabets.builders for initial browser-based design tests. Its development roadmap links design to bills of materials, cost, logistics and reuse records. The gravity-powered Assembler is in development: a design prototype can be demonstrated, and a mechanical test rig is being built. Stable printable CAD modules are intended for release after validation.

The Contributory is the social operating layer. It is a contribution-based structure for education, product learning, local experimentation and venture formation. People can enter as Explorers, become Contributors through documented work, take responsibility as Fellows or Masters and, where needs and budgets emerge, move into paid professional roles.

The professional lead market is reusable exhibition, retail and presentation infrastructure. It offers a demanding test of compact logistics, repeated reconfiguration, surface exchange, digital planning and assembly. Parallel routes through design schools, maker events, FABETS Studio and Starter Kits generate applications, feedback and Contributors. Tested Assembler CAD modules will add an open-hardware entry route. Professional pilots and contributor activity inform each other throughout development.

Impact measurement covers three dimensions. People: practical skills, self-efficacy, authorship, participation and local economic opportunity. Planet: structural-core retention, repair, compact logistics, separable materials and steel recovery. Profit: kits and components, B2B systems, digital planning and services that keep systems useful. Steel, zinc, PETG, tensioning materials, energy, transport, tooling, digital infrastructure and governance effort are included in the costs to assess.

The 2027 targets are at least 3 design schools, 1 maker event, 50 external applications, 20 printable extensions, 20 empowerment cases and 10 reuse trajectories. The core-retention target is at least 90% of the original structural-core mass reused after each documented reconfiguration. Actual packaged transport and storage volumes will be measured for representative configurations. These targets do not yet constitute measured lifecycle benefits.

The association fabets.builders carries technical, cultural, research and market validation. A later fabets.world AG remains an option once safety, demand, costs, IP, liquidity and operational leadership justify commercialization. The planning baseline provides CHF 440,000 of additional commercial funding through 2028 and an indicative CHF 485,000 research project volume, including in-kind contributions. These are separate planning tracks, not secured funds or an automatically additive cash requirement. Quotations, partner budgets and a monthly cash-flow model must substantiate the funding case.

FOUR CONNECTED DEVELOPMENT LAYERS



FIG. 01 | Shared structural core

CAD view. Six identical wall modules form a hollow voxel. The same parts can be stored as a compact flat pack.



FIG. 02 | Digital design

Studio screenshot. FABETS Studio is online for initial design tests. Verified BOM, cost and reuse outputs form part of its roadmap.

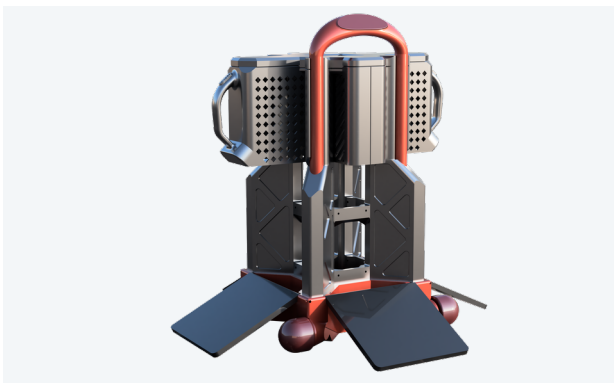


FIG. 03 | Physical assembly

CAD view of the Assembler design prototype. Mechanical validation is the next step; a test rig is under construction.



FIG. 04 | Shared learning

Contributory concept. Applications, experiments and documented contributions connect product development with learning and authorship.

Foreword: Why FABETS develops differently

A substrate approach to sustainable product development

Early focus, a specific customer problem and rapid market validation are essential to building a business. FABETS combines this discipline with a longer design horizon: what material basis can remain useful while products, functions, materials, interfaces, technologies and cultural needs continue to change?

FABETS creates a durable load-bearing structure as the substrate of a constantly changing product world.

We understand the fabet as a spatial substrate: one industrially reproducible basic element from which a persistent physical order can be built. Around this substrate, generations of functions, materials, interfaces and forms of expression can emerge, change and disappear while the common load-bearing basis remains compatible.

The FABETS substrate combines five qualities that are decisive for its long-term sustainability logic:

Compact flat-pack geometry: Six 0.3 mm wall modules are designed to nest at a 1.8 mm pitch into a 75 x 75 x 10.8 mm stack and form a 75 x 75 x 75 mm voxel. This is 14.4% of assembled volume, or an 85.6% geometric reduction before packaging. Real logistics performance will be measured separately.

Carrier for recycled and local materials: The durable structural substrate carries replaceable panels, surfaces and functions made from recyclates, recovered resources, local materials and craft processes, while keeping structural and material layers separable.

Complete hollowness: The continuous internal space remains available for cables, data, lighting, sensors, mechanics, pneumatics, hydraulics, reinforcement, repair elements and future functions.

Prestressability: Light, initially flexible modules can be prestressed into stiff load-bearing beams and spatial structures.

Expansion in all spatial axes: The system can continue, branch, disassemble and reconfigure in three dimensions, allowing the same substrate to support changing spatial organizations.

These qualities mix deliberately different rates of change. The substrate remains stable. The vocabulary evolves. The grammar can be extended. Expression remains open. This separation is central to our sustainability approach: a lasting load-bearing basis can continue in use while functions, materials, technologies and cultural forms change around it.

This objective shapes our development method. We work iteratively and empirically: build, test, observe and refine. Design schools, makers, craftspeople, material partners, exhibition designers and Contributors develop their own applications on the same spatial basis. Their work tests whether the substrate is robust, understandable and adaptable beyond the assumptions of the core team.

The approach is anchored in concrete economic validation. Reusable exhibition, retail and presentation systems are the first professional test field because transport, assembly, reconfiguration, changing surfaces, digital planning and repeated use can be observed under demanding real conditions. Starter Kits, design schools, maker environments and FABETS Studio create parallel access and learning routes.

FABETS connects short-term technical and economic validation with long-term structural continuity. We understand

sustainability as a goal and a development method: a system intended to remain useful for decades needs systematic learning, adaptation and room for unexpected applications.

Our central design question is: Which durable load-bearing substrate can remain useful across many generations of products, functions and applications?

FABETS offers a concrete material proposition: retain the structural core while new functions, materials and forms of expression develop around it. The next phase must show where this proposition creates measurable user value, resource savings and viable revenue.

Durability will be earned through repeated use, documented learning and continued compatibility.

We aim to create an open setting for this approach to sustainability - one that gains strength from durability and capacity for change at the same time.



FIG. 05 | A durable basis for changing everyday life

Application concept. Furniture, storage and surfaces explore a shared structural language. Compatibility and replaceable layers are intended to let uses change around the same core.



FIG. 06 | Rest and domestic space

Concept. A bed combines a common frame with a distinct material character.

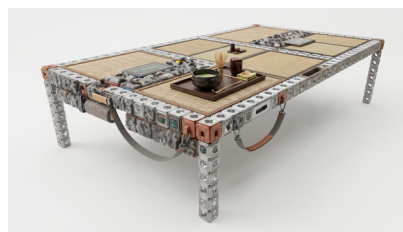


FIG. 07 | Furniture as an interface

Concept. A table brings structure, replaceable surfaces and useful functions together.

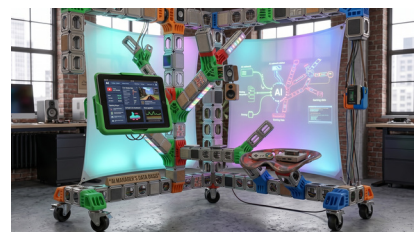


FIG. 08 | Interactive environments

Concept. Displays and media functions become part of a spatial assembly.

1. Initial Situation, Vision and Business Idea

1.1 Sustainability Challenge

Furniture, exhibition and spatial systems are often replaced when needs, dimensions, surfaces or functions change, even though much of their material remains usable. Established systems offer different combinations of strength, adaptability and convenience; the trade-offs must be examined in specific applications. FABETS investigates whether one durable structural standard can connect digital design, local fabrication and circular materials while reducing the need for whole-product replacement.

The sustainability challenge is therefore not only to reduce material input at the moment of production. It is to retain value through repeated change. A structure that can survive many different uses, accept local materials, separate cleanly into material streams and remain intelligible to users can avoid part of the recurring whole-product replacement that characterizes fast furniture and temporary presentation systems.

1.2 Vision

FABETS aims to establish a globally connectable load-bearing substrate for circular, adaptive and locally expressive product worlds. The industrial core provides precision, repeatability and scalability. The open ecosystem enables evolving functions, panels, recovered and recycled materials, printable extensions, digital applications and local craft.

Circularity is understood as an extension of useful time: reconfigure before replacing, repair before discarding, and retain the durable substrate across many product lives. The common structural basis is intended to carry changing material and functional layers rather than prescribe one finished product family.

The guiding horizon is: For a hundred years of change. This is a design criterion for compatibility, reparability and openness. It does not assume that every component will physically last one hundred years without maintenance; it means that the substrate and its interface logic should remain capable of repair, substitution and adaptation over very long periods.

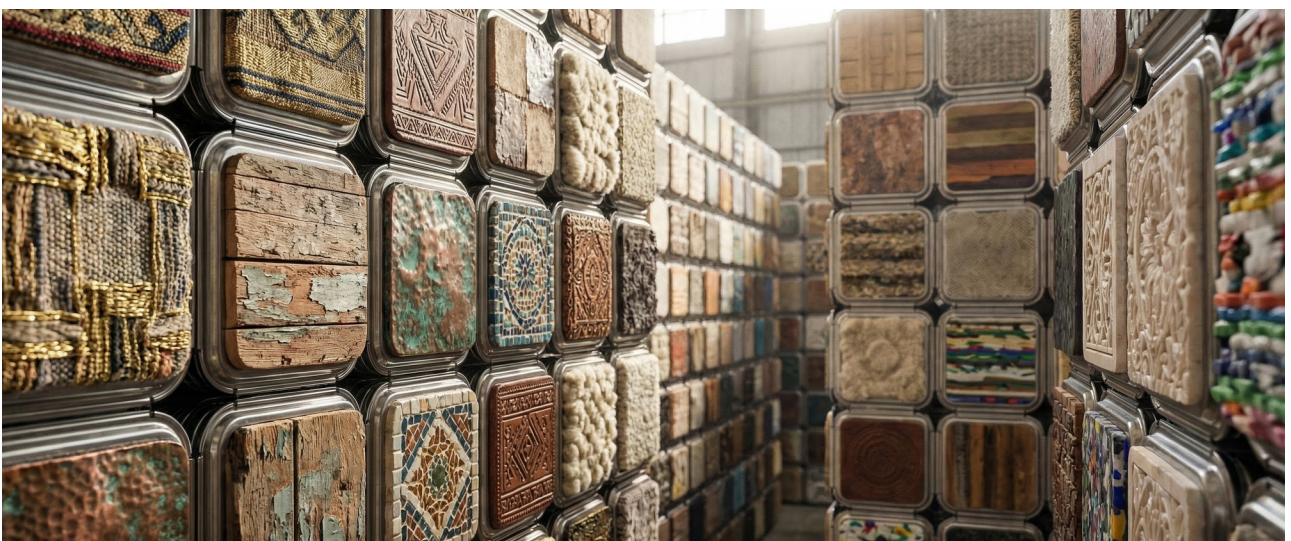


FIG. 09 | Global structure, local material culture

Material concept. A shared structural interface can carry different textures, recovered materials and local craft, while panels remain a distinct, replaceable layer.

1.3 From Substrate to Language: Vocabulary, Grammar and Expression

Layer	FABETS meaning	Why it matters
Substrate	One standardized 0.3 mm sheet-steel wall module; six modules form a completely hollow 75 mm voxel. The substrate is flat-packable, prestressable and expandable in all spatial axes.	A stable, repeatable material basis can remain compatible while functions, materials and applications change.
Vocabulary	Functional modules, adapters, panels, lighting, sensors, printable extensions, digital tools, recycles, recovered and local materials.	The vocabulary can evolve as technologies, needs and cultural forms change.
Grammar	Rules for snap-fit assembly, prestressing, straight and spatial connection, branching, service routing, disassembly and reconfiguration; increasingly encoded in FABETS Studio.	Explicit rules make the system understandable, teachable and testable; safety still requires validation.
Expression	Furniture, lamps, displays, spatial frames, media structures, exhibition systems, local material applications and future user-developed forms.	The same substrate can support different needs, cultures and aesthetics across many product generations.

A useful analogy is language, with FABETS positioned one level below vocabulary. The fabet is the physical substrate on which changing vocabularies can develop. The vocabulary evolves, the grammar is explicit and extensible, and the field of meaningful expression can keep expanding. Local materials and craft can become dialects of the same shared system. This is the conceptual link between Global Structure -> Local Culture -> Local Value.

1.4 Business Idea and Value Architecture

FABETS combines a structural core for which IP protection is sought with an open application ecosystem. Revenue can come from Starter Kits and components, professional exhibition/retail/presentation systems, digital planning, assembly, reconfiguration, refurbishment and storage, and later compatibility services or licensing. fabets.builders can maintain education, open development and research, while a future fabets.world AG could organize production, B2B contracts, liability, working capital and professional sales.

1.5 Sustainability Logic and Impact Hypothesis

FABETS tests whether keeping a standardized load-bearing substrate in circulation through repeated reconfiguration can reduce whole-product replacement while enabling users and local partners to create new functions, surfaces and applications. The substrate can carry panels and functional layers made from recycled, recovered and local materials while keeping these layers separable from the structural core. This will be tested through documented reuse trajectories, material and logistics baselines, user studies, assembly data and B2B pilot evidence. The plan deliberately separates current evidence from future targets.

2. Organization, Governance and the Contributory

2.1 Current Sponsoring Entity

FABETS is currently carried by the Swiss association fabets.builders, UID CHE-278.557.436. Its task is the pre-commercial development and validation phase: technical and design research, prototyping, community building, workshops, field labs, documentation, public communication, open extensions and preparation of research and innovation partnerships.

The association is suited to a phase in which technical, social, legal, sustainability and market-economic questions are tested in public and collaborative settings. It keeps fixed commercial commitments low while evidence is built.

2.2 From Consumers to Contributors

The Contributory is the contribution-based educational, development and participation structure of fabets.builders. It gives practical form to the idea From fast-furniture consumer to Contributor. People enter through documented work: a material test, connector, workshop, digital tool, application prototype, local cell, repair scenario or reuse trajectory.

The Contributory makes authorship, learning, access, responsibility and transitions into paid roles visible and negotiable. Governance work therefore includes attribution, rights, compensation, budgets and professional-transition rules.

2.3 Role and Learning Architecture

Role	Form of participation	Access and development
Explorer	Participates, tests, observes, reflects.	Entry point, experience, first visibility.
Contributor	Develops a documented contribution.	Profile, recognition, access to tools and networks.
Fellow	Takes responsibility for a module, test or local cell.	Defined responsibility and public authorship; budget and decision rights by agreement.
Master	Enables others, leads workshops or Field Labs.	Facilitation and teaching responsibility; paid mandates where budgets permit.
Professional role	Takes on clearly defined operational responsibility.	Contract, compensation, project or leadership role.

2.4 Organizational and Commercialization Logic

fabets.world AG is a future commercial option. It would organize production, sales, product liability, licensing, B2B contracts, working capital and professional management. The decision to establish it depends on evidence of product safety, demand, viable costs, a funded IP strategy, production capability, liquidity and operational leadership. Section 13 defines the decision criteria; no founding date is assumed.

2.5 Strategic and Operational Partners

Andea Stamping Co., Ltd in Foshan, Guangdong, is the current tooling development partner. Research collaboration with FHNW is in preparation around the Contributory and sustainable business-model innovation. Further partnerships are being explored for structural testing, assembly, digital models and manufacturing. Design schools, maker spaces, HEK, cultural institutions, material and recycling initiatives, exhibition networks and legal advisors are potential collaboration fields; their inclusion does not imply a confirmed commitment.

3. Management, Team and Organizational Development

3.1 Founder and Core Team

Prof. Mischa Schaub is founder and president of fabets.builders and inventor of the FABETS system. As former head of the HyperWerk Institute for Postindustrial Design at FHNW, he brings experience in product development, experimental education, institutional development and interdisciplinary project leadership. His current responsibilities include product and IP development, funding strategy, cultural positioning and partnerships.

Person / prospective partner	Role at FABETS	Competence profile
Mischa Schaub	System idea, IP, product, strategy, partnerships	Product design, higher education, institutional development, postindustrial design, AI-supported concept development.
Stephanie Burckhardt	Circular material and panel development	Circular materials, textile recycling, material aesthetics and product development.
Rasso Auberger	UI/UX, field tests, material and kit workshops	Design, technology mediation, user experience, material-related development processes.
Mauro Tammaro	3D printing, adapters, functional prototypes, Assembler	Mechanics, digital fabrication, prototyping, workshop experience.
Ralf Neubauer	Documentation, conceptual sharpening, publication	Design research, teaching, language and knowledge mediation.
Institute of Management, School of Business, FHNW	Prospective research partner; cooperation in preparation	Sustainability-oriented business model innovation, design-based action learning and innovation formats.

3.2 Organizational Model and Personnel Development

The Contributory becomes the main talent and learning architecture for the validation phase. Open development questions are translated into contribution fields. Contributors provide documented inputs; Fellows assume responsibility; Masters facilitate learning formats; paid roles emerge where clear needs, budgets and responsibilities exist.

The next phase needs four commercial capabilities: B2B sales, finance and controlling, operations and quality, and operational leadership. Product evidence, paying pilots, credible costs, a funded IP path and a clear role framework will provide the basis for recruiting or appointing that leadership. Responsibilities and budgets must be defined before paid commitments are made.

3.3 Organizational Chart for the Validation Phase

Level	Function	Responsibility
Association / Board	fabets.builders	Strategic oversight, purpose-bound development, funding and partner logic.
Founder / President	Mischa Schaub	Invention, IP, product architecture, funding strategy, handover preparation.
Core team	Design, materials, UI/UX, prototyping and documentation	Development, field tests, Studio, workshops, content.
Contributory	Explorers, Contributors, Fellows, Masters	Documented contributions, learning paths, Field Labs, local cells, talent development.
Prospective research partners	FHNW Institute of Management; further partners to be agreed	Research design, evaluation, sustainable business-model innovation, education and governance.
Production Partner	Andea Stamping Co., Ltd Foshan City, Guangdong, China	Tooling and MVP production
Later AG	CEO, sales, operations, finance	B2B sales, production, liability, financing and scaling.



FIG. 10 | The Contributory as a place of shared work

Making, testing and discussing applications share one workspace. The organizational model adds documented contributions, visible authorship and agreed responsibilities to this collaborative setting.

4. Products, Services and Development Status

4.1 Product Architecture: Substrate, Vocabulary, Grammar and Expression

FABETS is both a product architecture and a process architecture. The substrate-language framing separates the durable physical basis from the layers designed to evolve:

- **Substrate** - one standardized 0.3 mm sheet-steel wall module; six form a 75 mm hollow voxel. The substrate is flat-packable, prestressable and expandable in all spatial axes.
 - **Vocabulary** - functional modules, adapters, panels, lighting, sensors, printable extensions, local/recovered materials and compatible interfaces that can evolve over time.
 - **Grammar** - tool-free snap-fit assembly, C-channel geometry, internal prestressing, three-axis continuation, branching, service routing, disassembly and reconfiguration rules.
 - **Expression** - objects and environments built on the substrate through changing vocabularies and rules: furniture, lighting, displays, spatial frames, exhibition systems, media structures and locally surfaced applications.
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- **Digital layer** - FABETS Studio is online at fabets.builders and available for initial design tests. The roadmap includes verified bills of materials, cost, logistics, reuse and quotation outputs, followed by simulation, AR and production data.
 - **Physical layer** - manual assembly and the gravity-powered Assembler under development. A design prototype can be shown; a mechanical test rig is being built to test the assembly sequence.
 - **Social layer** - the Contributory, through which applications, materials, extensions, learning and roles are documented and developed.

4.2 Technical Core and Customer Benefit

Development focuses on the 75 mm MVP. Modules made from 0.3 mm sheet steel form C-shaped channels when joined; six form a hollow voxel. At the 1.8 mm design stacking pitch, the six walls occupy 75 x 75 x 10.8 mm: 14.4% of assembled volume before packaging. Internal Dyneema or other tensioning elements are intended to prestress beams into a stiff working state. The continuous hollow space can carry services, reinforcement, repair elements and future functions. The geometry permits branching in three dimensions and supports separable panels made from recycled, recovered and local materials. Permitted loads, spans and applications will be defined through testing.

For customers, the benefit is the combination of compact logistics, repeated reconfiguration, adaptable surfaces, functional integration and digitally supported planning. For B2B use, standardized geometry and digital data support repeatability, quotation, logistics and reuse.

4.3 Circular Design Principles

Principle	Design implication	Validation evidence
Retain the core	Reconfigure before replacing whole products.	Reuse trajectories; original structural-core mass retained per reconfiguration.
Separate flows	Steel core, panels, printable parts and tensioning elements remain separable.	Disassembly tests; material declarations; clean scrap return.
Compact logistics	Six wall modules nest at a 1.8 mm pitch into a 75 x 75 x 10.8 mm flat pack and assemble into a 75 x 75 x 75 mm voxel; ideal geometric flat-pack volume = 14.4% of assembled voxel volume.	Verify module nesting and dimensions; measure packaging overhead and real transport/storage volume for representative structures.
Repair and compatibility	Damaged or obsolete functions can be replaced without discarding the structure.	Repeat assembly, repair protocols, extension library.
Carry changing materials	The durable load-bearing substrate carries separable panels, surfaces and functions made from recycled, recovered, local or craft materials.	Material Commons cases; attachment, separation and reuse tests; partner applications.
Open-ended use	Studio, AI and shared CAD make new applications accessible.	External applications, printable extensions and empowerment cases.

4.4 Development Status and Roadmap

Building block	Status September 2026	Next step
75 mm structural core	Advanced MVP; third-generation tooling available; fourth-generation tooling under development.	Use trial parts for assembly/load tests; complete tool 4 and MVP batch after successful validation.
150/225 mm formats	Designed and structurally prepared.	Tooling only after validated demand and financing.
FABETS Studio	Online at fabets.builders; available for initial browser-based design tests.	Test usability and design flows; validate BOM, cost, logistics and reuse outputs.
Open gravity Assembler	Design prototype available for demonstration; mechanical test rig under construction.	Test the mechanical assembly sequence; publish stable printable CAD modules after validation.
Panels / local materials	Material and interface logic available.	Compatibility, safety, material declarations and Field Lab cases.
Starter Kits	Lead-product logic defined; precise composition still under validation.	Final BOM, packaging, instructions, price and pre-sale test.
Contributory	Role logic, Canvas and research outline prepared.	fabets-base-one, Field Labs, Contribution Ethics and registry prototype.

4.5 Scalability

FABETS can scale through a standardized core, explicit connection rules and distributed application development. Progressive die stamping is intended to provide repeatable quality and lower unit costs at sufficient volume; production yield and costs still require validation. FABETS Studio already supports initial design tests. Its planned data outputs can connect configurations to bills of materials, quotations, logistics and reuse records. The Contributory extends application development beyond the core team.

5. Sustainability Innovation and Impact

5.1 Challenge Addressed

The project addresses a combined ecological and social challenge: short product cycles dissipate embodied material value while adaptation, repair and local material substitution remain difficult in many product systems. FABETS tests whether a durable load-bearing substrate can make changing needs compatible with material retention, user agency and evolving functional vocabularies. This is relevant to both professional temporary structures and everyday objects.

5.2 People, Planet and Profit Outcomes

People outcome	Planet outcome	Profit / economic outcome
Self-efficacy and practical skills; creativity, identity and participation; users become Contributors; local craft and micro-production; cross-cultural material expression; social space for learning.	Retain the structural core across uses; geometric flat-pack volume 14.4% before packaging; separable flows and steel recovery; local/recovered/recycled panels; target $\geq 90\%$ original-core mass retained per reconfiguration.	Starter Kits + components; exhibition/retail/presentation B2B; digital/configuration services; assembly/reconfiguration/refurbishment/storage; local economic opportunities; compatible ecosystem.

5.3 Eco-Social Costs and Benefits

Costs / negative effects to manage	Benefits to test and document
Steel, zinc, PETG and tensioning materials; energy and transport; tooling and prototypes; digital infrastructure; incomplete material declarations; governance/authorship/compensation effort; rebound risk if new making only adds consumption.	Longer useful material life; fewer whole-product replacements; repair and adaptation skills; durable carrier for recycled, recovered and local materials; local recycling and craft value; knowledge commons and open hardware; resilience across low-tech and high-tech contexts; value retained through repeated use.

5.4 2027 Validation Targets

Target	Metric	Purpose
Design-school adoption	≥ 3 design schools	Test learning, grammar intelligibility and external application development.
Maker visibility	≥ 1 maker event	Test accessibility, community interest and open hardware narrative.
External expression	≥ 50 external applications	Test whether the substrate supports diverse vocabularies and expressions beyond the core team.
Open vocabulary	≥ 20 printable extensions	Test compatibility and distributed functional development.
Empowerment evidence	≥ 20 documented empowerment cases	Test user agency, learning and contributor transitions.
Circularity evidence	≥ 10 documented reuse trajectories	Observe real reconfiguration and value retention.
Core retention	Target $\geq 90\%$ of original core mass per reconfiguration	Measure original structural parts reused, excluding newly added material.

Target	Metric	Purpose
Flat-pack / logistics	Geometric baseline: six wall modules at 1.8 mm stacking pitch form a 75 x 75 x 10.8 mm flat pack versus a 75 x 75 x 75 mm assembled voxel = 14.4% of assembled volume (85.6% reduction before packaging).	Verify the geometric volume ratio, then measure actual packaged transport/storage volume and handling advantages for representative structures.

5.5 Impact Measurement and Evidence

Measurement follows three evidence layers: product data (mass, materials, packing volume, assembly and repair); use data (duration, reconfiguration, replaced parts and reuse); and social data (skills, authored contributions, participation and paid roles). For each reconfiguration, core retention equals the mass of original structural-core parts reused divided by the original core mass before the change. Added parts do not increase this percentage. Record removed and added parts separately; panels and extensions are tracked outside the structural core.

The same 10 reuse trajectories feed the targets and scorecard. An empowerment case records a participant's starting point, contribution and evidence of changed capability. External applications and printable extensions require distinct documented examples. Environmental comparisons must use equivalent functions, loads, service duration and reuse cycles, including packaging and transport. Until those baselines exist, benefits remain hypotheses to test.

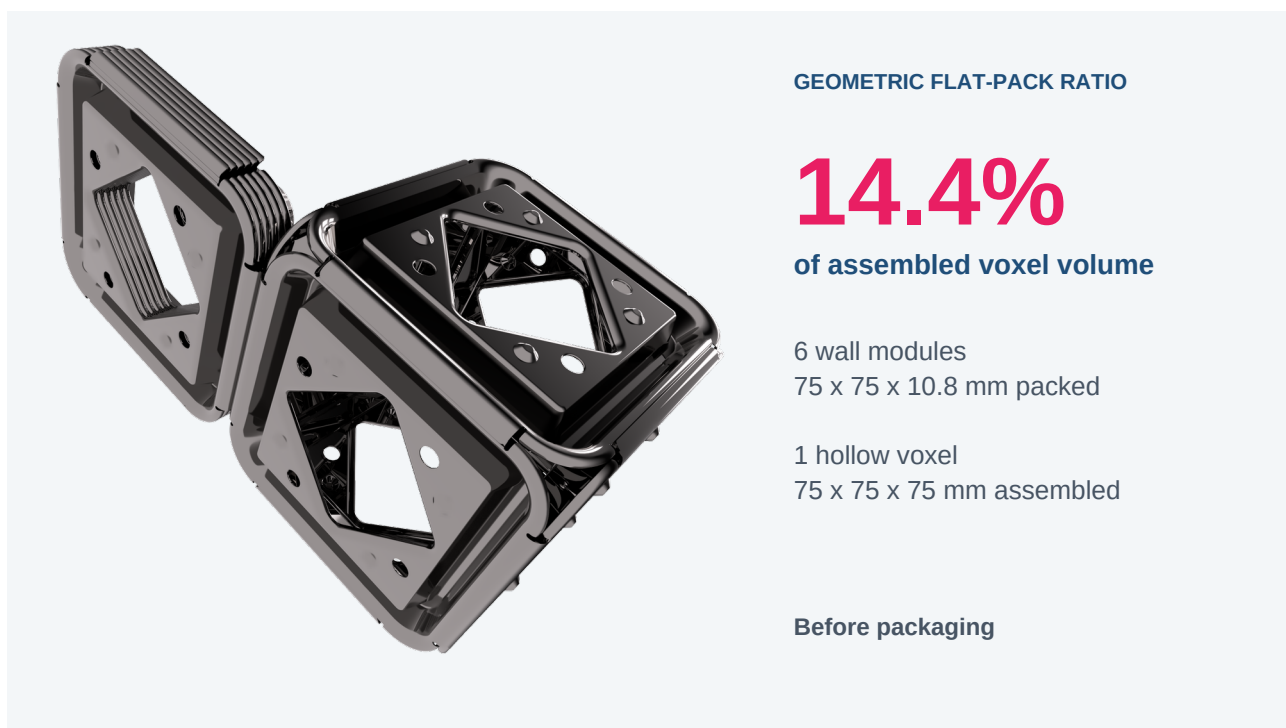


FIG. 11 | Compact geometry, measurable logistics

CAD comparison. The dimensions imply an 85.6% geometric volume reduction. Packaging, handling and real transport or storage performance are measured separately for representative configurations.

6. Markets, Customers and Competition

6.1 Market Prioritization

FABETS develops two reinforcing routes in parallel. Professional exhibition, retail and presentation pilots test repeated assembly, transport, storage, adaptation and willingness to pay. Design schools, makers, Starter Kits, FABETS Studio and local material partners generate applications, learning and talent. People may enter through either route. Starter Kits -> Contributors -> Professional Use describes one possible progression, not a mandatory sequence.

6.2 Customer and Contributor Segments

Segment	Need / value	Access
People moving beyond fast furniture	Agency, savings, self-expression, repair, flexible making.	Starter Kits, Studio, workshops, community.
Makers / open hardware	Affordable tools, open files, experimentation and contribution.	Maker events, demonstrations, extension library and validated Assembler CAD releases.
Design schools / labs	Reconfigurable experimental infrastructure and real-world learning.	Field Labs, workshops, teaching partnerships.
Craft / material / recycling partners	Common interfaces for local materials, skills and cultural expression.	Curated material partnerships and local cells.
Exhibition / retail / presentation	Rapid reconfiguration, compact logistics, integrated services, repeated reuse.	Direct B2B pilots, scenography and agency networks.
FABETS-compatible makers	Third-party products designed to connect, separate, adapt and remain in use.	Shared interface rules, Studio and future compatibility services.

6.3 Market Potential and Sales Assumptions

An internal estimate of EUR 1.0-1.2 billion per year for DACH exhibition stand construction and related modular infrastructure remains unverified and is not the basis of the funding case. Near-term market sizing must work from reachable customers, project frequency, expected order values and achievable conversion. The immediate objective is a documented niche of reusable, adaptable presentation systems with paying pilot demand.

The base model assumes around 1,000 kit/component packages by end-2027, initial B2B pilots and CHF 790,000 revenue in 2028. This is an indicative volume assumption across a product mix, not 1,000 identical CHF 349 Starter Kits. The mix, realized prices and delivery timing must reconcile with the income statement. Pre-orders, conversion, paying pilots and repeat projects will provide demand evidence; Studio usage alone does not establish willingness to pay.

6.4 Competition and Differentiation

Relevant alternatives include event trusses, aluminium T-slot systems, modular exhibition systems, furniture/shelving, 3D-print construction kits and digital configurators. The comparison below identifies questions to test, rather than claiming that every competing product has the same limitations. Selected products should be compared on equivalent function, load, span, useful life, assembly effort and total cost across repeated use.

Category	Strength	Comparison to validate
Event trusses	Load-bearing, established, professional.	Packed volume, assembly time and integration at equivalent load and span.
T-slot / aluminium profiles	Flexible, precise, industrially available.	Part variety, tools, assembly effort and adaptation cost for equivalent tasks.
Modular exhibition systems	Quick display and wall solutions.	Repeated-use cost, cross-application compatibility, surface exchange and service integration.
Furniture and shelving	Understandable, everyday applications.	Cost and effort of repair and reconfiguration across changing functions.
3D-print maker kits	Open, adaptable, community friendly.	Print effort, material use, repeat-assembly performance and permissible loads.
Digital configurators	Visualization and sales.	Connection to verified part lists, assembly, quotation and reuse records.



FIG. 12 | Reusable retail and presentation infrastructure

Application concept. Display walls, counters and freestanding fixtures provide a concrete test field for repeated assembly, surface exchange, service integration and changing retail layouts.

7. The Contributory Research Project and fabets-base-one

7.1 Research Purpose

The proposed research examines how people with different skills can develop applications, learn and create shared value through the Contributory. It connects product experiments with authorship, governance and viable venture formation on a durable structural substrate.

7.2 Guiding Research Question

How can the Contributory support learning, work and shared value creation so that people with different skills build a sustainable culture of use and an economically viable venture?

7.3 Research Questions

Research area	Question
Participation and motivation	Which forms of access, recognition, learning, shared decisions and compensation support sustained participation?
Contributions and learning paths	How can contributions from design, craft, materials, digital development, AI, facilitation, documentation, production and organization become visible and developmental?
Product learning through real use	Which experiments generate valuable insight into assembly, repair, adaptability, surfaces, digital support, safety, pleasure and long-term appropriation?
Governance and value creation	Which rules support transparent authorship, fair recognition, clear usage rights, transparent returns and shared responsibility?
Venture formation	How can the Contributory develop a credible talent, competence and role base for fabets.builders and a later fabets.world AG?

7.4 Research Approach and Field Labs

The research cycle is co-design, practical testing, evaluation and refinement. fabets-base-one launches five Field Labs: Assembly & Use, Material Commons, AI & Digital Builder, Local Cell, and Contribution & Governance. These labs test the substrate, new functions, participation rules and external applications through documented use.

7.5 Expected Outputs

- Contributory Charter 1.0 with access, contribution, recognition, rights, protection, compensation and transitions.
- Contributory Canvas for sustainable structures of learning, work and shared value creation.
- Field Lab Playbook for cells, workshops, material labs and local partnerships.
- Contribution Registry prototype for authorship, learning paths and responsibilities.
- Product and use insights for core, panels, extensions, Assembler, Studio and instructions.
- Governance/IP recommendation and talent/role strategy.
- Research report and public presentation.

8. Marketing, Sales and Go-to-Market

8.1 Positioning and Message Architecture

CORE POSITIONING

FABETS creates a durable load-bearing structure as the substrate of a constantly changing product world.

Message	Role
Empowerment for a culture of use	Value proposition: people can make, adapt, repair and keep useful objects in use.
For a hundred years of change	Long-term design horizon: compatibility, repair, transformation and repeated use.
Consumer to Contributor	Social transition: from passive purchase to participation, authorship and capability.
Global Structure -> Local Culture -> Local Value	Shared industrial standard enables local materials, expression and economic activity.
Starter Kits -> Contributors -> Professional Use	One possible path from accessible entry to contribution and professional application; routes also operate in parallel.
Substrate -> Vocabulary -> Grammar -> Expression	Explanatory architecture: durable physical basis, evolving elements, explicit rules and an open field of possible applications.

8.2 Parallel Market Entry Routes

Design-school experiments, maker demonstrations and initial FABETS Studio tests build participation and product learning. In parallel, direct discussions and defined B2B pilots test professional requirements and pricing. Starter Kit pre-sales follow a validated composition, cost and delivery plan; printable Assembler CAD modules follow successful mechanical tests. Field Labs connect these activities through shared documentation, reuse evidence and governance. Repeatable professional offers depend on results from both routes.

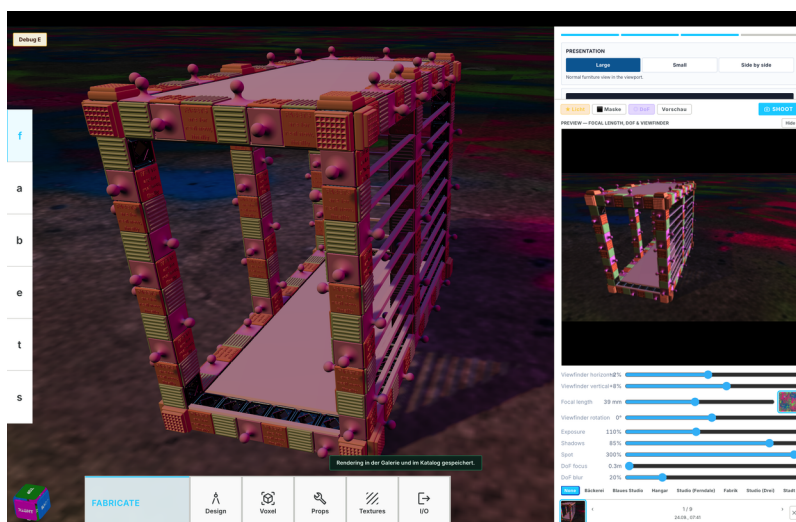


FIG. 13 | Design as an entry point

Studio screenshot. Initial browser-based design tests connect interest with hands-on exploration. Commercial data outputs are development milestones.



TRY FABETS STUDIO

Scan to open
the online Studio.

fabets.builders/studio.html

8.3 Channels and Offer Process

Channel	Function	First implementation
Design schools	Experiment, learning, external applications.	Workshops and semester-scale Field Labs.
Maker festivals / media	Reach open-hardware communities and collect feedback.	Design-prototype demonstrations now; mechanical demonstrations after test-rig validation.
FABETS Studio	Configuration, lead generation, BOM/cost/logistics logic.	Online Studio tests now; reliable commercial data outputs as development milestones
Kickstarter / pre-sale	Demand proof and pre-financing.	Clearly delimited Starter Kit.
Direct B2B sales	Pilot projects, systems, planning and services.	Exhibition builders, scenography offices, cultural institutions and brands.
Contributory	Contribution, learning, documentation and talent.	Field Labs, local cells and partner workshops.

8.4 Pricing and Service Policy

Starter Kit pricing will be fixed after the final bill of materials, packaging, shipping, quality and load-test data are available. Professional B2B offers will combine core components, adapters/panels, planning, logistics, setup, return/reuse, refurbishment/storage and target margin.

9. Production, Infrastructure and Quality

9.1 Manufacturing and Supply Chain

The structural core is designed for progressive die stamping. The first industrial focus is the 75 mm format. The 150/225 mm formats are prepared for later industrialization after demand and financing are validated. The current development partner is Andea Stamping Co., Ltd in Foshan.

The July 2026 plan assumes a minimum purchase quantity of around 14 tonnes for the target coated special steel and a material price of roughly USD 900 per tonne, before transport, customs, storage, inspection, handling and pre-financing. These figures remain planning data and require refreshed quotations before ordering.

9.2 Infrastructure and Distributed Production

Industrial precision and distributed application development have different roles. The steel core is suited to centralized production; extensions, panels, repairs, workshops and applications can develop locally. The Assembler has a demonstrable design prototype, and its mechanical test rig is under construction. Third-generation tooling can provide parts for assembly and load trials. Successful tests are the condition for completing the fourth-generation tool and producing the MVP batch. A November-December 2026 Kickstarter campaign remains a target, dependent on validated parts, costs and a credible delivery plan.

9.3 Quality and Production Data

Quality assurance includes material properties, dimensional accuracy, edge quality, snap behavior, C-channel geometry, line guidance, prestressing, surface durability, repeat assembly, wear and load-bearing capacity. FABETS Studio should progressively link configurations with bills of materials, assembly instructions, load/use notes, logistics data and later reuse records. Panel and extension layers require separate compatibility and safety rules.

9.4 Research and Validation Needs

FEM simulations and physical load tests should accompany product development. Sustainability validation needs material declarations, baseline logistics data, repeated-use records and representative comparisons. The goal is to replace narrative sustainability claims with measured evidence as early as practical.

ASSEMBLER DEVELOPMENT: DESIGN, MECHANISM AND TESTING

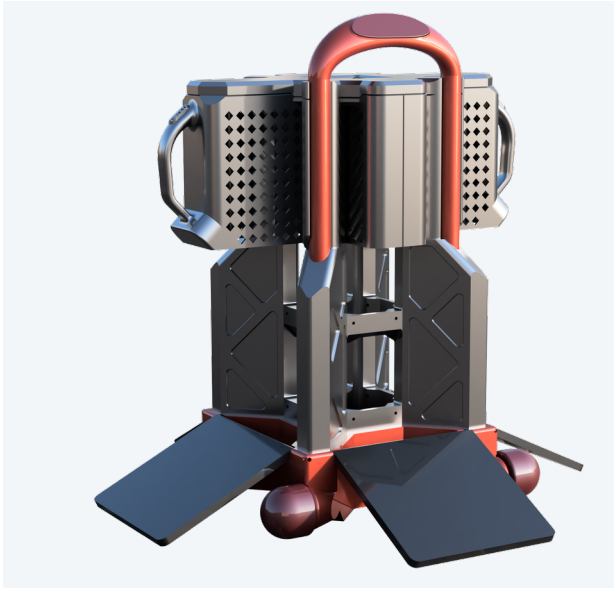


FIG. 14 | A demonstrable design prototype

CAD rendering. The Assembler packages the assembly concept in a compact device. Its mechanical sequence is being developed and tested.

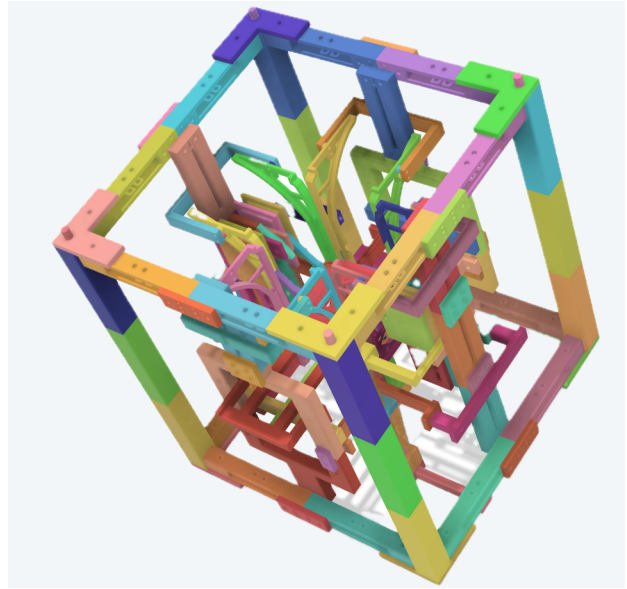


FIG. 15 | A rig for mechanical learning

CAD rendering. The mechanical test rig is under construction. It will be used to investigate feeding, alignment, engagement and repeatability.



FIG. 16 | From part feeding to a repeatable sequence

CAD detail of the magazine arrangement. Physical tests connect the design to reliable part handling and assembly. Their results inform stable printable modules, instructions and the next manufacturing steps.

10. Corporate Risks and Risk Management

FABETS develops a load-bearing modular system and an open contribution ecosystem. Risk management therefore covers technical, commercial, legal, social and environmental dimensions. The basic principle remains staged commitment: larger tooling, inventory, IP or personnel costs are released only when preceding proof steps succeed.

Risk	Likelihood / impact	Mitigation
Technical load and assembly behavior	Medium / high	Load tests, FEM, use classes, safety margins, instructions and pilot validation.
Product liability / misuse	Medium / high	Warnings, insurance review, B2B assembly plans, quality evidence and defined application limits.
IP deadlines and country costs	High / high	Verify priority dates and actual deadlines; obtain country quotations; fund a prioritized filing decision.
Material / supply-chain dependency	Medium / high	Batch planning, location comparison, quality agreements, second-source options and working capital plan.
Market acceptance / willingness to pay	Medium / high	Starter Kits, pre-sale, Studio data, workshops, B2B pilots and clear benefit communication.
Sustainability claim gap	Medium / high	Baselines, material declarations, reuse trajectories, target-vs-evidence labeling and external review where useful.
Rebound: new making adds consumption	Medium / medium	Prioritize reuse cases, track retained core, document replacement avoided rather than only units made.
Contributory fairness / expectation	Medium / high	Contribution Ethics, attribution, compensation rules, professional-transition logic.
Missing operational leadership	Medium / high	Define responsibilities, recruit commercial capabilities and link appointments to funded milestones.
Liquidity bottleneck	High / high	Monthly controlling, milestone financing, limited batches, deposits/ pre-sales and separate IP reserve.

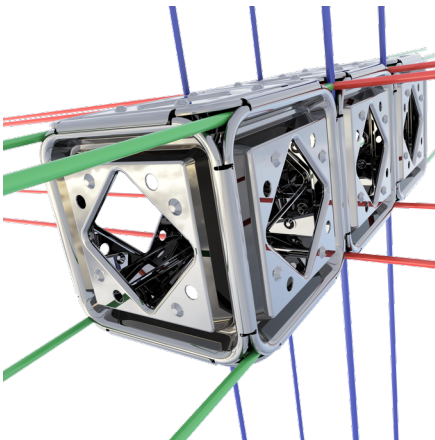


FIG. 17 | Connections define the validation work

CAD study. The joined walls, continuous channels and tensioning paths make the technical questions visible: snap-fit repeatability, edge quality, assembly tolerances and permitted loads.

11. Financial Planning, Financing Situation and Controlling

11.1 Financial Starting Point

The July 2026 financial baseline records approximately CHF 40,000 of direct founder investment in IP, travel, tooling, materials, software and production preparation, roughly two years of near full-time founder work and CHF 10,000 of in-kind contributions. These historical figures are retained pending an updated cost ledger. They are separate from the additional funding envelope below.

Track A covers commercial validation and potential commercialization; Track B covers Contributory research, learning, governance and impact evaluation. Each cost must belong to one budget or have an explicit allocation. Shared personnel, prototypes, events and documentation must not be counted twice. Cash funding, in-kind support, requested funds and confirmed commitments will be reported separately.

11.2 Track A: Commercial Validation

Phase	Period	Purpose	Indicative additional funding
1: Validation	Jul-Dec 2026	MVP, Studio, field tests, workshops, pilot preparation.	CHF 30,000
2: Market and IP decision	2027	Pilot batch, quality, B2B sales, campaign fulfillment and prioritized IP costs.	CHF 220,000
3: Commercialization option	2028	Repeatable system sales, working capital, operations and B2B rollout.	CHF 190,000
Base planning total	2026-2028	Staged funding envelope; reconcile to monthly cash needs and confirmed commitments.	CHF 440,000

11.3 Track B: Contributory Research

The indicative research project volume is CHF 485,000 from late 2026 to May 2028. It covers research staff, evaluation, fabets-base-one, Field Labs, microgrants, documentation, governance advice and transfer. The proposed mix includes foundation/public funding, FHNW resources, fabets.builders in-kind work and partner support. Cooperation and budget approval remain in preparation. This project volume is not all cash and must not simply be added to Track A without removing overlaps.

11.4 Revenue and Project Funding

- Starter Kits and structural/functional components.
- B2B exhibition, retail and presentation projects.
- Configuration and digital services.
- Assembly, reconfiguration, refurbishment and storage.
- Panels, compatible extensions and future compatibility/licensing services.
- Workshops, Field Labs and consulting where appropriate.

Research and education grants are a separate funding stream. They are not product sales and are not included in the sales revenue table below. Pre-orders and deposits affect cash flow; sales revenue is modeled on delivery.

11.5 Three-Year Income Statement: Base Scenario

Position in CHF	2026	2027	2028
Starter Kit and component sales	5,000	220,000	330,000
Revenue from B2B pilots and system sales	5,000	80,000	320,000
Workshops, Field Labs and consulting	10,000	30,000	60,000
Digital services, panels and add-ons	0	10,000	80,000
Total revenue	20,000	340,000	790,000
Materials, manufacturing, packaging, fulfillment	-7,000	-175,000	-400,000
Gross contribution	13,000	165,000	390,000
Operating expenses	-43,000	-245,000	-380,000
Operating result before financing costs and taxes	-30,000	-80,000	+10,000

11.6 Unit Economics and Break-Even

The illustrative Starter Kit calculation is CHF 349 less 10% platform/payment fees (CHF 34.90) and CHF 190 of variable costs: CHF 124.10 contribution per kit. CHF 60,000 of fixed preparation/campaign costs therefore requires 484 kits to break even. This assumes CHF 349 is available before those deductions; VAT, shipping, refunds and the final cost scope must be reconciled before setting a consumer price. The campaign calculation is separate from company-wide break-even.

At the 2028 scenario margin of CHF 390,000 / CHF 790,000 (49.4%), CHF 380,000 of operating expenses implies operating break-even at about CHF 770,000 revenue. The working range of CHF 775,000-800,000 remains a planning band until prices and product mix are validated. The three annual operating results sum to CHF -100,000; they do not explain the full CHF 440,000 funding envelope. Investment, inventory, working capital, cash timing, IP and reserves must be reconciled in a monthly cash-flow model.

11.7 Financing Architecture and Controlling

Potential funding sources include grants, awards, foundations, founder and partner contributions, research resources, pre-orders, B2B deposits and, after proven demand, equity. None is treated as secured without a commitment. Monthly controlling will link opening cash, receipts, payments and closing cash to milestones, committed funds and cost allocations. It will also track IP deadlines, margins, batch costs, sales conversion, research obligations and core-retention evidence. Grants, customer advances and delivered sales must remain distinguishable.



FIG. 18 | A tangible offer to validate

Starter Kit concept. Structural parts, material samples and instructions form an accessible entry offer. Final contents, price and delivery terms follow the validated bill of materials and fulfillment plan.

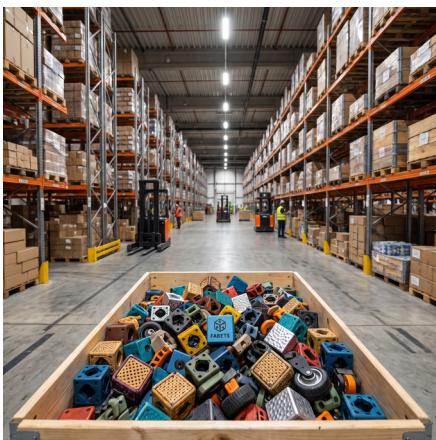


FIG. 19 | Components remain economic assets

Inventory concept. A stock of compatible parts can support replenishment, repair and reconfiguration. Storage, handling, returns and working capital belong in the service and financial model.

12. Intellectual Property, Insurance and Public Engagement

12.1 Patent, Trademark and Open-Layer Strategy

FABETS reports an international PCT application and a Swiss trademark filing. The patent strategy concerns the wall module, voxel/beam logic, connections, tensioning, assembly and relevant extensions. A PCT application is not an internationally granted patent: scope and enforceability depend on subsequent national or regional procedures. The proposed boundary is to seek protection for the structural substrate and relevant connection rules while enabling open extensions, applications and documentation. Application status, ownership, deadlines and country costs require an up-to-date IP schedule; the timetable must follow actual priority dates, not a generic 2027 target. See the WIPO sources below.

12.2 Contribution Rights and Compatibility

The Contributory needs clear usage rights for core IP, open extensions, Field Lab results, local material developments, software, documentation and educational formats. Contributions will be documented and attributed under terms agreed before publication or commercial use. Recurring economic contributions should have transparent routes to compensation, a mandate, licensing, a budget or shared responsibility. Open CAD releases require explicit licenses and a clear distinction between experimental and validated parts.

12.3 Insurance and Product Liability

FABETS needs defined applications, load limits, assembly instructions, physical tests and appropriate insurance arrangements before commercial use. The internal categories in Appendix D organize development and validation; they are not regulatory certifications. Experimental extensions must remain distinguishable from tested structural parts. Professional projects require defined loads and spans, assembly plans, tests, responsibility for installation and clear limits of use.

12.4 Public Engagement as Market, Impact and Talent Strategy

Public engagement is part of the business and sustainability logic. Design-school experiments, maker events, Starter Kits, Studio configurations, Field Labs and the planned conference fabets-base-one generate product feedback, impact evidence, material ideas, visible authorship and talent. Public engagement is therefore not only communication; it is part of the distributed R&D and impact measurement infrastructure.

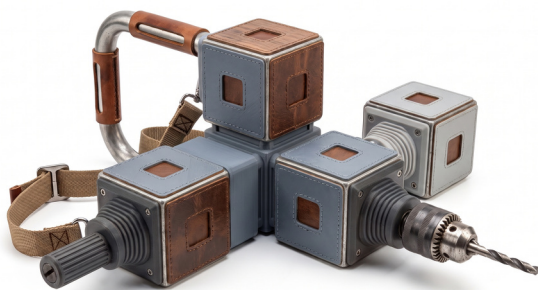


FIG. 20 | An evolving functional vocabulary

Concept. Shared interfaces allow specialist functions to develop around the structural core.



FIG. 21 | Distinct objects, visible authorship

Concept. Contributors create new applications; compatibility and contribution rights are documented.

13. Timeline, Milestones and Commercialization Decision

13.1 Timeline 2026-2028

Period	Milestone	Result / KPI
Sep 2026	Impact framing and validation design	Sustainability Innovation Canvas, revised plan, impact targets and measurement logic.
Late Oct / Nov 2026	fabets-base-one / public kick-off	Hands-on exploration, Contributory workshop, Field Lab commitments and documentation.
Q4 2026	MVP tests, Studio trials and Assembler validation	Online Studio feedback; mechanical test-rig results; conditional tool 4/MVP and campaign decision.
2027	Design schools, maker route, Starter Kits and B2B pilots	3 schools, 1 maker event, 50 external applications, 20 printable extensions, 20 empowerment cases, 10 reuse trajectories.
Before actual IP deadlines	Country selection and funding decision	Verified dates, claim strategy, country costs, priority regions and funded IP reserve.
End 2027	Commercialization decision	Evidence on safety, demand, cost, sustainability, liquidity, leadership and contributor ecosystem.
2028	Optional fabets.world AG and B2B rollout	Repeatable system sales, operations, liability and professional sales structure.
Target: May 2028	Contributory research transfer	Charter, Canvas, Playbook, Registry prototype, evaluation and public transfer.

13.2 Commercialization Decision Criteria

- A technically validated 75 mm MVP with documented safety, assembly and quality parameters, and viable pricing based on manufacturing, packaging, transport and storage costs.
- Paying B2B pilots and a documented path to repeat orders; pipeline interest alone is insufficient for major fixed commitments.
- Funded, prioritized IP decision and clear transfer/licensing logic.
- Secured liquidity for the next phase.
- Operational leadership solution with B2B, finance, production and scaling competence.
- Documented Contributory base with roles, contribution records, talent signals and governance rules.
- Sustainability evidence sufficient to distinguish measured results from targets: material data, reuse trajectories, retention and logistics baselines.

13.3 Decision Logic

If the decision criteria are not yet met, fabets.builders can continue focused development, education, workshops, limited validated products and research within available funds. Value creation does not depend on immediate venture scaling. When professional demand, safety, economics, funding and leadership align, an AG can provide the commercial structure while preserving the educational and Contributory work under explicit agreements.

Appendix A: Market and Customer Validation

A.1 Validation Questions

Question	Method	Measurable evidence
Do people understand the substrate-and-language value proposition?	Studio, workshop and prototype tests.	Comprehension, time-to-first configuration, errors, recommendations.
Do the substrate and grammar enable useful external expression?	Design-school/maker experiments.	External applications, extension diversity, successful assembly/reconfiguration.
Is pricing viable?	Pre-sale, Starter Kit offers, B2B quotations.	Offer acceptance, paid deposits, conversion and contribution margin; track waitlists separately.
Does circularity occur in real use?	Reuse trajectories and pilot installations.	Original-core mass retained, parts added/removed, cycles and logistics per equivalent use.
What value does the Contributory create?	Field Labs, registry, interviews.	Return rate, quality of contributions, learning, role transitions.
What value does FABETS Studio provide?	Observed design tests; compare later quotation outputs with checked manual calculations.	Time to a usable design, errors, completion rate and verified BOM/cost outputs as available.

Appendix B: Differentiation in Eight Points

- One standardized 0.3 mm sheet-steel wall module as a durable spatial and load-bearing substrate.
- Prestressability: lightweight, initially flexible elements become stiff load-bearing beams and spatial structures.
- Dense flat-pack geometry: six walls nest into 75 x 75 x 10.8 mm and form a 75 x 75 x 75 mm voxel - 14.4% of assembled volume, an 85.6% geometric reduction before packaging.
- Complete hollowness: continuous internal space for cables, data, lighting, sensors, mechanics, pneumatics, hydraulics, reinforcement and future functions.
- Spatial extensibility: continuation, branching, disassembly and reconfiguration in all three spatial axes.
- Material carrier: the structural substrate carries separable panels and functions made from recyclates, recovered and local materials.
- Digital and physical development: FABETS Studio is online for first design tests. Manual assembly, a demonstrable Assembler design prototype and a mechanical test rig under construction form the basis for linking design data to physical assembly.
- Open expression and Contributory: evolving functions, local materials, externally developed applications, learning, authorship and professional development.

Appendix C: Financial Model and Scenarios

The scenarios retain the July 2026 planning baseline and are not secured revenue or funding. Kit/ component quantities represent mixed packages; product mix, net prices and delivery timing must be linked to revenue. Track B is project volume including in-kind work, not a cash amount automatically additive to Track A. Revised scenarios will be driven by quotations, pilot demand and a monthly cash-flow model.

Scenario	Market / revenue assumption	Organizational consequence	Indicative funding
Conservative	500-800 mixed kit/ component packages, few pilots; 2028 revenue below CHF 350,000.	Association remains main carrier; focus on workshops, Field Labs, limited kit/project production.	Up to CHF 250,000 plus selective research funding.
Base	Around 1,000 mixed kit/ component packages by end-2027; initial B2B pilots; 2028 revenue CHF 790,000.	Assess commercialization; prepare professional operations; pursue approved research cooperation.	CHF 440,000 Track A envelope; CHF 485,000 Track B project volume, subject to overlap and cash/in-kind reconciliation.
Growth	3,000+ mixed kit/ component packages; repeat B2B sales; revenue potential above CHF 1.2m.	AG and professional management required; Contributory becomes talent/partner base.	Up to CHF 740,000 commercial plus strategic research/ partner funding.



FIG. 22 | Configurations become professional offers

Workspace and counter concept. Components, surface choices and planning can combine into project-specific offers. This illustrates the product-mix logic behind kit/component packages and professional system sales.

Appendix D: Product, Safety and Quality Logic

Categories 0-4 are internal development and use categories, not regulatory certifications or a ranking of safety. Each application still needs its own test evidence and permitted-use limits.

Internal category	Application	Requirement
0	Communication models, 3D-printed demonstrators.	Representation of geometry and principle.
1	Non-structural panels, graphic inserts, cable clips, holders, light adapters.	Secure attachment, removability, material compatibility.
2	Furniture kits, small shelves and simple beams after validation for defined uses.	Assembly instruction, load limit, parts list, warnings.
3	Professional exhibition structures, display walls, booths, larger spatial systems.	Assembly plan, load assumptions, test plan, insurance clarification, defined limits.
4	Contributory / Field Lab experiments.	Clear prototype status, supervision, documentation, rights and attribution logic.

Appendix E: Contributory Research Budget and Deliverables

The indicative CHF 485,000 research project volume covers research resources, fabets.builders technical work, fabets-base-one, five Field Labs, microgrants, documentation, governance/legal work, external experts and a reserve. Cooperation, cost allocation and funding remain to be agreed. The final budget must distinguish cash from in-kind contributions, identify funding sources and remove overlap with Track A. The intended deliverables are:

- Contributory Charter 1.0
- Contributory Canvas
- Field Lab Playbook
- Contribution Registry prototype
- Product and use insights
- Governance and IP recommendation
- Talent and role strategy
- Research report and public presentation

Appendix F: Sustainability Impact Scorecard

Dimension	2026 baseline	2027 target / evidence	Long-term direction
Material life	Prototype-stage; no full comparative LCA yet.	10 reuse trajectories; target $\geq 90\%$ original-core mass retained per reconfiguration.	Structural core remains useful across many product lives.
Logistics	0.3 mm sheet-steel wall modules nest at a 1.8 mm pitch. Six walls form a 75 x 75 x 10.8 mm flat pack and assemble into a 75 x 75 x 75 mm voxel: ideal geometric flat-pack volume = 14.4% of assembled voxel volume; packaged-volume baseline pending.	Verify the 14.4% geometric flat-pack volume ratio and measure real packaged transport/storage volume for representative systems.	Less volume moved and stored per useful configuration; short standardized modules replace long dedicated carrier elements in logistics.
Repair / reconfiguration	Functional concept explored in prototypes; formal performance tests pending.	Documented repeat assembly, part replacement and reconfiguration cases.	Repair and adaptation become normal use behavior.
Local materials / craft	Partner logic and panel concepts available; structural substrate designed to carry separable local, recovered and recycled material layers.	Material Commons cases and compatible local/ recovered/recycled panels; attachment and separation tests.	Global load-bearing substrate enables local cultural and economic value without replacing the structural core.
User agency	Workshops and prototype interactions; structured evidence pending.	20 empowerment cases, 50 external applications, 20 printable extensions.	Users become Contributors and co-develop the system.
Economic durability	Business model under validation.	Starter Kit conversion, B2B pilot contribution margins, repeat demand.	Revenue from keeping systems useful, not only selling replacements.
Governance	Contributory role logic prepared.	Contribution Ethics, Charter, attribution and compensation tests.	Transparent pathway from contribution to professional work.



FIG. 23 | Make change observable

Use concept. A documented reuse case records assembly, retained original parts, replacements and changed functions. Participant learning and authored contributions are tracked alongside material retention.

Sources, Assumptions and Required Updates

Internal basis

- FABETS Sustainability Innovation Canvas, September 2026.
- Current technical drawings, tooling status and founder updates of 21 September 2026: FABETS Studio online for first tests; Assembler design prototype demonstrable; mechanical test rig under construction.
- Contributory and fabets-base-one concept, role logic and Field Lab plan.
- **FABETS Studio: online version for initial tests, checked 21 September 2026.** [Open Studio](#)

Sustainability and research framing

- FHNW: Sustainable Innovation Plan framework.
- Daub, C.-H.; Hasler, M.; Verkuil, A. H.; Milow, U. (2020). Universities talk, students walk: promoting innovative sustainability projects. International Journal of Sustainability in Higher Education, 21(1). [DOI / publisher record](#)
- FHNW Institute of Management: Sustainable Business and Circular Economy research context. Proposed collaboration and budget remain in preparation.
- WIPO: PCT FAQs and national/regional phase time limits, checked September 2026. [PCT FAQs](#) | [Time limits](#)

Required updates before external financing or binding B2B offers

- Final BOM and calculation for the selected Starter Kit configuration(s).
- Real packaging, shipping and fulfillment offers for DACH.
- Material declaration and production offer for a defined validation batch.
- Load, repeat-assembly and safety test results for defined use classes.
- At least three tested B2B offer examples.
- Updated 18-month liquidity model reconciling funding, operating results, investments, inventory, research allocations and three scenarios.
- Verified IP status, priority dates, national/regional deadlines, country costs and funding decision.
- Partner-approved Contributory research cooperation and budget.
- Baseline impact data: material mass; design stacking pitch and flat-pack geometry; measured packaging/storage volumes; original-core mass retained per reconfiguration; and comparable use cases.
- Clarification of contribution rights, data protection and compensation rules.

Evidence note: The 100-year horizon is a design ambition. The 2027 impact figures are targets; financial and market figures are planning assumptions. The 14.4% volume ratio is a geometric calculation from design dimensions before packaging, not a measured transport saving. The online Studio and demonstrable Assembler design prototype establish development progress; mechanical, structural and comparative lifecycle validation remain distinct work items.