



European construction advisory services



INTERNATIONAL

Who we are

A 30-year success story

Ecas AG was founded in 1987.

Since then, Ecas AG has been able to accomplish a wide variety of projects both nationally and internationally.

We strive to achieve the highest of standards for our clients and the best of ethical standards for our profession, thus endorsing the trust placed in us and benefitting the projects on which we work.

Our Mission

Taking extraordinary and innovative approaches to achieve the most of clients' resources, ensuring transparency on building processes and costs.



Facts and figures

- > **+30 years established in the Swiss market**
- > **+300 commissions** (primarily in Switzerland)
- > **Since 2014 regulated by RICS**
(Royal Institution of Chartered Surveyors) www.rics.org
- > **Official partner of the ICMS**
(International Construction Measurement Standards)
- > **Part shareholder of Enfold AG,**
project development www.enfold.ch
- > **Founding member of the Swiss**
Lean Construction Institute www.slci.ch

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David Duffy

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Construction Economist
Project Manager

What we do

Depending on the structure of your project organization, we accompany your building project in various roles and phases;

- > **whether as a key consultant over the entire project in the role of client representative or project manager**
- > **or as a consultant and specialist for certain tasks in the role of client advisor; e.g. as a cost expert for a second opinion or as cost controller, etc. Thanks to our many years of extensive project experience, we understand clients and their needs.**

What defines us:

- > **Trustworthy handling of resources**
- > **Transparent and disciplined way of working**

Over the years we have been able to build up a broad local network of specialists, architects, construction managers and designers of all categories. Thanks to our diverse project portfolio, we of course also have access to a broad international network.

Many of the aforementioned specialists are, like us, members of the RICS - a globally active organization in the construction and real estate sector.

Royal Institution of Chartered Surveyors – RICS

Ecas AG is regulated by RICS. We are also represented as "Fellow" and "Member". Its network of over 100,000 highly qualified professional members from various specialist disciplines worldwide enables us to provide our clients with the necessary expertise wherever the project is located and whatever the nature of the project.

Swiss Lean Construction Institute – SLCI

Ecas AG is a member of the SLCI and is actively committed to making the planning and construction process more efficient and effective.



Client Representative
Client Advisor
Project Manager
Overall Project Supervision

Design Management
Agile Planning

Construction Economics
Cost Planning
Cost Control
Construction Cost Database
Schedule Planning and Controlling
Construction Management

Local Compliance
Trouble Shooting
International Projects
International Client Base
International Partners

Expertise
Portfolio Analysis
Project Evaluation
Technical Due Diligence
BIM and LEAN

Client Advisor / Client Representative

In the role of client representative or client advisor, we represent or advise the client in all project phases:

- When developing and defining project goals
- When defining the project strategy and organization
- From monitoring planning and execution to commissioning.

We manage and monitor the project to ensure that the predefined project goals and standards are met.

Our Tasks:

(depending on the mandate)

- Management of projects and interdisciplinary project teams
- Taking on client duties as required
- Ensuring compliance with objectives with regard to: standards, costs, deadlines, quality (controlling)
- Advice on contracts
- Reporting and status recording.

Project Management

As experienced project managers, we take on tasks in the Swiss as well as international markets.

Our broad knowledge in the areas of construction law and forms of contracts also supports our management skills. This ensures comprehensive support for the client.

Our core competencies as project managers are:

- Project evaluation
- Strategic planning
- Design management and contracting
- Project controlling / Project leadership
- Project organization
- Cost planning and quality assurance
- Time scheduling and controlling
- Procurement of construction work.

The target criteria of quality, deadlines and costs are always organized in such a way that they can be tracked, controlled and modified during the course of the project.

The following aspects must be extensively examined when considering construction economics:

Project Type:

- Residential
- Office
- School
- Etc.

Building Factors:

- Building footprint/gross floor area
- External wall area/gross floor area
- Roof area/gross floor area
- Useable area/gross floor area
- Window area/façade
- Building volume/gross floor area

Primary Costs:

- Gross floor area (CHF/m²)
- Useable floor area (CHF/m²)
- Volume (CHF/m³)
- Functional unit(s) (CHF/unit(s))
units e.g. No. desks in an office,
No. students in a school, etc.

Construction Management

The target criteria of quality, deadlines and costs are constantly monitored and, if necessary, optimized.

As experienced construction managers we manage both Trade-by-Trade contract construction projects and projects which have been awarded on a General Contractor or a Design & Build turnkey basis.

Our services as Construction Managers:

- Bid documentation
- Procurement
- Site management
- Post-contract quantity surveying
- Commissioning and snagging
- Guarantee management.

Comparison of macro parameters according to EKG:

- MA Building substructure
- MB External walls
- MC Roofs
- MD Remaining structural work
- ME Mechanical and electrical services to buildings
- MF Finishing work to buildings

Adaptive team structures:

- Suites of Swiss and international forms of contract, together with a variety of tendering options tailored to your project.

Construction Economics

Construction and real estate economics are intricately linked. Giving due consideration to the interactions and interdependencies of both significantly improves the chances of a successful building project.

Compared to consumer goods, real estate is long-term oriented and is viewed in the context of the built environment over the entire life cycle.

As construction economists, we offer our services in the following areas:

A comparison with other construction projects, using economic parameters and building geometrical factors, facilitates detailed estimation and effective control of construction costs.

- > Support with real estate, location and property strategies
- > Portfolio and potential analysis and recommendations
- > Cost analysis during preliminary studies
- > Defining cost targets and cost controlling, including cost estimating
- > Condition surveys.

Cost Planning

Whether as a cost planner in the project team or as an external specialist for a second opinion on project costs - we bring in-depth knowledge of construction economics to your project.

Our expertise is supported by our own construction cost database **ecas benchmarks®**.

This significantly increases cost accuracy and thus also trust as regards where your project is determined to finish.

Our services:

- > Approximate cost estimates
- > Cost estimates
- > Cost parameters / Detailed cost estimates
- > Cost calculations for project optimization
- > Cost tracking across all phases
- > Construction economic assessment (e.g. in competitions)
- > Claims management.

Our services as an external cost specialist:

- > External cost controller
- > Second opinion on costs
- > Identification of potential cost savings.

Quantity Surveying

A globally recognized profession in cost prediction. The quantity surveyor will produce a schedule of identifying descriptions and quantities based on a project's design, which is known as a Bill of Quantities (BoQ). The BoQ document is placed on the market for pricing by bidding contractors to achieve competitive rates for the works.

Our services as quantity surveyors:

- > Supporting global investment decisions, business casing, site acquisition
- > International, national, regional or state cost comparisons
- > Feasibility studies and development appraisals
- > Cost planning/control/analysis/modelling
- > Procurement and analysis of tenders
- > Dispute resolution
- > Reinstatement costs for insurance
- > Valuation of assets and liabilities
- > Global consistency in presenting construction costs (ICMS).

Our Services:
(Pre-Contract)

- > Compiling detailed bills of quantities (BoQ)
- > Benchmarking
- > High level cost estimating
- > Cost planning, cost prediction
- > Bid documentation
- > Budget agreement and adherence
- > Value engineering/setting of realistic goals
- > Cost updating and reporting during all stages in design

(Post-Contract)

- > Regular cost forecasting
- > Client cost reporting
- > Change management updating
- > Claim managing and monitoring
- > Frequent valuations and payments
- > Regular communication and reporting throughout
- > Negotiations and final accounts

Expertise

The economic expectations of the owners, the individual expectations of various stakeholders and ultimately the requirements of users, the many different aspects of a project converge, resulting in an increased complexity if the implementation of a construction project is to be successful.

We understand this complexity, whether for local, national or international projects - we support you with our specialist knowledge and years of experience in the following fields:

- > Value Engineering
- > Technical Due Diligence (TDD)
- > Consulting Mandates
- > Construction Contracts
- > Dispute Mediation
- > Local Compliance
- > Troubleshooting
- > Portfolio Analysis
- > Project Evaluation

BIM Management

In the role of BIM Manager, we are able to structure and support a project in a leading capacity.

- > Setting of goals and continued monitoring throughout
- > The BIM model's contract (including preparation)
- > Model user rights
- > The scope of the BIM model and processes
- > «Model Sharing» / «Model Linking».



«BIM Light» vs. «Big BIM»

We successfully implemented «BIM Light» and fulfilled the role of BIM manager on a complex museum project. The 3D BIM model was exchanged between the individual design team members and coordinated in the context of «clash detection». Only the essential design team input and model information was adopted – which would also be relevant for future maintenance and facility management.

We support you in realizing your project in accordance with Swiss regulations and norms – so-called «Local Compliance».

For international companies or individuals who may be seeking to explore or implement a project in the Swiss market.

- > Support with legal clarifications with Cantons and Municipalities
- > Recommending, negotiating, recruiting of potential design team members and specialists
- > Procurement of design services
- > Overseeing compatibility of plans, specifications and permits
- > Advice and support in the procurement of construction services
- > Advising clients for the duration of the project.

Ongoing construction management tasks (change orders, bidder interviews and negotiations, support with final accounting) or intermittent support as a troubleshooter for specific assignments (problem solving).

BIM Basics

The term Building Information Modeling (BIM) describes a method of collaborative design, execution and facility management for a project. All relevant building data is digitally modelled.

Standards / Codes of Practice

The following Swiss standards provide the legal framework for implementing BIM:

- > SIA 2051 'Principles of Usage for BIM'
- > 'BIM Contracts, Roles and Services' – building smart Switzerland
- > SN EN 19650 'Organisation of Data for Buildings'.

LOI/LOD

LOD «Level of Development» and LOI «Level of Implementation / Information» denotes the level of detail in which the model is processed and exchanged.

Design to Cost (DTC) Method

The SIA norm predefines the expected cost estimate level of accuracy for the various project phases. With a predefined accuracy of $\pm 30\%$ in the early project phases, it is impossible to calculate a reliable target return. With the DTC method and accompanying management, it is possible to achieve project return targets.

With the DTC method, the target costs are defined in the course of the feasibility study by means of architectural, construction and qualitative benchmarks. Using the **ecas benchmarks®** construction cost database, a so-called base project is created with the help of comparison projects. Together with the total cost target, the generated macro

parameters (EKG) form the cost framework, which is tracked throughout the duration of the project - as shown in the example below.

Experience shows that this DTC method can significantly support budget / return planning. Despite a tight budget, many different architectural approaches are still possible.

A successful project example utilizing DTC. School project for the city of Winterthur

CLIENT:	City of Winterthur
ROLES:	Cost expert and advisor to the jury
TIMELINES:	Architectural competition 2016 / completion 2023

Working together with the architectural competition's jury, not only was an overall cost target set, but also a so-called key cost parameters for cost elements according to the Swiss EKG norm (façade, finishes, etc.) was predefined. These key cost parameters were integrated into the competition's program and pursued in the further design stages - right up to the construction phase. The conclusion, with the help of these predefined

parameters and with constant monitoring (cost control), the overall cost target could even be reduced. Of course, other economic aspects of construction also played an important role in the overall assessment (see extract of a comparison between the cost objective project with that of a submitted architectural application), which had a direct influence on the costs, for example the ratio of glass to façade.

A comparison between the cost target model and the budget from the architectural design submission:

Description	Cost Target Project			Design Submission		
ZH cost index of the projects (01.04.1990 = 100)	01.04.2015	122.7	8.0	01.04.2016	120.5	8.0
ZH cost reference index (01.04.1990 = 100)	01.04.2020	120.6	7.7	01.04.2020	120.6	7.7

Macro Element Costs	CHF	Quantity	Rate	CHF	Quantity	Rate
MA Building substructure	756'759	1'452	521	623'846	1'176	530
MB External walls	2'733'902	2'953	926	2'441'574	2'904	841
MC Roofs	737'351	1'630	452	694'470	1'176	591
MD Remaining structural work	2'013'123	6'300	320	2'541'595	6'511	390
ME Mechanical and electrical services to buildings	3'908'440	6'300	620	3'975'316	6'511	611
MF Finishing work to buildings	3'716'534	6'300	590	3'910'146	6'511	601

Primary Costs	CHF	Quantity	Rate	CHF	Quantity	Rate
Costs per gross floor area (CHF/m ² GFA)	18'636'733	6'300	2'958	18'993'390	6'511	2'917
Costs per useable floor area (CHF/m ² UFA)	18'636'733	3'842	4'851	18'993'390	3'971	4'783
Costs per volume (CHF/m ³)	18'636'733	22'050	845	18'993'390	22'463	846
Costs per functional unit (CHF/No.)	18'636'733	57	326'960	18'993'390	57	333'217

Construction cost database **ecas benchmarks®** 2010 Principles:

- > Swiss construction cost database
- > Created in 2010
- > + 200 fully analyzed projects from residential, office, administration and industry
- > Majority new-build construction projects
- > Used for cost modeling over the entire project phase:
 - > In project development for property or portfolio analysis
 - > Early-stage cost estimate with a higher level of accuracy
 - > Defining cost targets
 - > Allocation of international cost estimates into Swiss standard BKP / eBKP-H cost structure
 - > Analysis of construction cost - plausibility check of construction costs during all phases.
- > Assessing project costs («second opinion»)
- > Analysing and displaying cost drivers for potential project optimization.

Working with Ecas AG means mutual respect and a high level of professional competence with the intention of jointly achieving our aims as designers and the targets of our clients in the best possible manner.

Clea Gross Architekten GmbH

I respect professionals who respect and value the time of their clients. Ecas AG is all about making things right, saving customers time and resources.

Founder of Lost Shtetl Foundation

ZIS, ex-Board Vice Chairman

Ecas has developed a strategic approach to its work which serves to protect the best interests of its building clients.

Glencore Management

The staff of Ecas AG have repeatedly demonstrated their intricate knowledge of the Swiss construction industry and offer their clients a balanced know-how.



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