

OPERATIONAL STAGE SERVICES

THOUGHT LEADERSHIP FOR THE BUILT ENVIRONMENT



CARING FOR YOUR PROJECT THROUGH ITS FULL LIFE CYCLE

We consider your project to be our project. That's why our relationship with you does not have to end once your development opens its doors. With Alpin as your trusted advisor, you can rest assured that your project will remain in excellent hands for its entire life cycle. Our operational team of experts will conduct vigorous, routine checks to ensure your integrated systems are calibrated and functioning effectively. The result is a development that excels in every department, from the efficient use of your operations budget right through to the comfort of its occupants.

We have worked with a large number of clients long after the build is complete and we relish the opportunity of maintaining and improving a

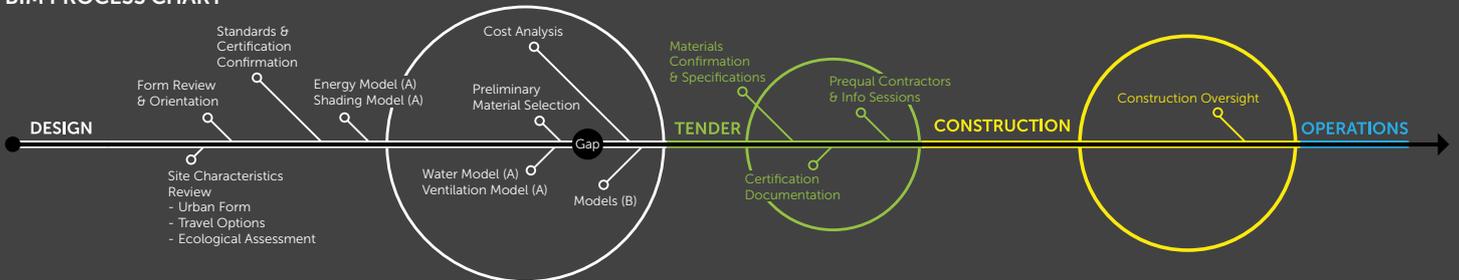
development's operational performance. Whether you want to measure, visualize and analyze your energy consumption, keep your building's certification up to date, or perform cost-saving retro-commissioning services, Alpin has a wealth of experience in this important post-construction phase. From energy auditing and MEP system optimization, to LEED EBOM re-certification and digital commissioning, we provide top-tier operational stage support.

Our world-class BIM services are also not just confined to the design and construction phases – we have implemented BIM successfully during the operational stages of many projects. Access to this enhanced level of support means we can help Facility Management

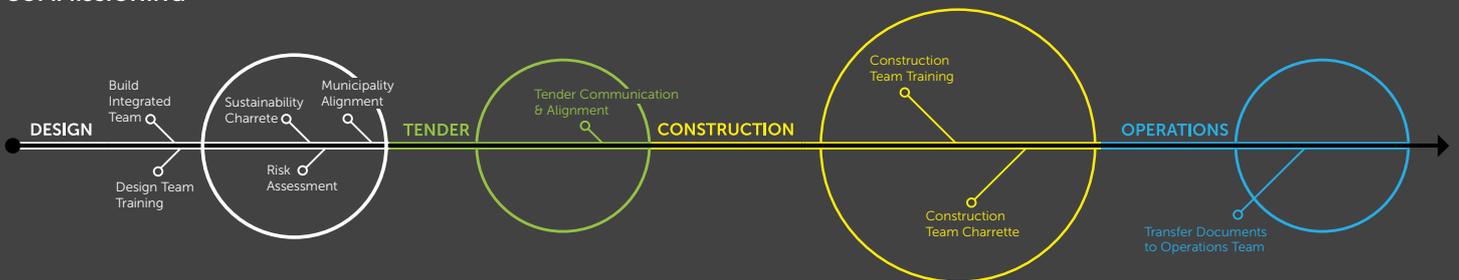
teams continue to find innovative ways to improve their building's efficiency and performance throughout its entire life cycle. Plus, by working to COBie standards, a British Code of Practice, we can greatly help to streamline the often tedious task of asset management. Should you also want to upgrade to a Smart Building or simply improve something like your indoor air quality at any time, our experienced team will conduct on site operational stage measurement and verification studies. We will then suggest and help implement any replacements to equipment, smart upgrades or changes that you require.

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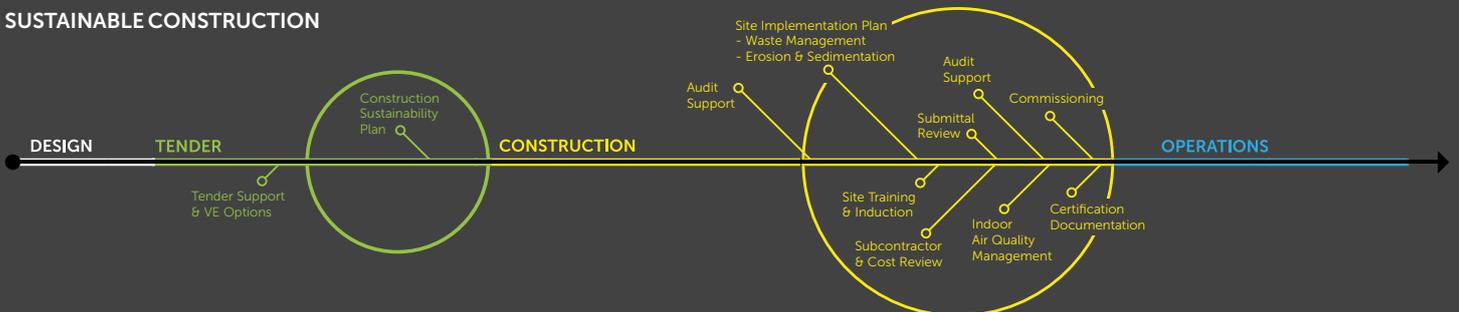
BIM PROCESS CHART



COMMISSIONING



SUSTAINABLE CONSTRUCTION



OPERATIONAL STAGE SERVICES

“With the price of energy, water and human capital rising year on year, there has never been a more important junction at which to consider how best to optimize our vital resources.”

THE ALPIN APPROACH

From design and development to commissioning and re-commissioning, we pride ourselves in being able to work with you every step of the way. Our highly skilled in-house team have decades of experience in Operational Stage Services and have built strong enduring relationships with many clients throughout their project’s ongoing life span. We analyze how efficiently your development is operating according to international benchmarks, and pinpoint and improve any errors in systems and equipment. This not only ensures your project will stand up to the test of time – it will save you valuable money in the process, by greatly helping to reduce your running costs and energy expenditure. Plus, with the price of energy, water and human capital rising year on year, there has never been a more important junction at which to consider how best to optimize our vital resources.

OUR OPERATIONAL STAGE SERVICES

Optimization of MEP systems

Through our trusted solutions and integration into your BMS, we keep a regular check on your MEP systems to ensure all systems are functioning effectively and efficiently. By quickly identifying errors and implementing improvements, we can help reduce your operating costs and save you time and energy in the long run.

Ongoing commissioning /Monitoring based digital commissioning

Our commissioning services help to guarantee the continued success of your project and have been proven to reduce contractor call backs due to operational deficiencies. Thanks to Alpin, you can rest assured that your building will go on measuring up to global standards, such as ASHRAE, CIBSE, BSRIA and SMACNA, or mandatory LEED, Estidama, BREEAM and GSAS system requirements.

ASHRAE energy audits

We carry out extensive diagnostic audits to identify ways in which your building might be underperforming or wasting energy, before recommending and implementing ways to improve your project’s efficiency.

Measurement and Verification post building occupancy

By performing AHSRAE Audit 1 and 2 and supervising during the implementation, measurement and verification phases, the Energy team is equipped with all the necessary tools and calibrated equipment to perform important audits.

Testing / optimization of BMS

Our team is highly trained under ASHRAE Guideline 13 in how to implement emerging technology for Monitoring Based Commissioning. This allows the FM team to perform ongoing commissioning on a continuous basis, which will greatly enhance how your building and all its systems perform.

LEED EBOM

Under international standards, buildings that certify under any version of LEED for Existing Buildings must recertify at least once every five years to keep their certification up to date. We’ll help facilitate this entire process, from handling the paperwork to ensuring your development measures up to the required criteria, under US (LEED) and UK (BREEAM) standards.

BIM support during operational stage

At Alpin, we believe the important BIM process should not only be confined to design and construction. We offer integrated BIM support throughout your project’s entire life-cycle to give your FM team greatly increased access to enhanced information that will revolutionize the way your building operates.

Air Quality Testing

Indoor air quality is one of the biggest contributors to the health and comfort of your building’s occupants. We conduct regular air quality testing to identify and root out any pollutants or irritants that could reduce the quality of your air.

Regulatory Support

We also offer ongoing Regulatory Support to ensure your project continues to meet any relevant laws, regulations or guidelines. We take the headache out of this process by taking care of all the paperwork and liaising with any necessary parties on your behalf.



OPERATIONAL PROJECTS THAT DELIVER RESULTS

Improved operational performance when compared to non-commissioned / non-LEED EBOM projects.

15-30%

Energy savings through commissioning + retro-commissioning

10X*

Increase in financial benefits

30%

Increase in fresh air

10-15%

Time saved through BIM for FM



OPERATIONAL STAGE SERVICES CASE STUDIES

In any significant construction project, there are many elements that must combine to ensure a development's success; from meeting intended operating procedures, to ensuring the entire journey is meticulously documented so that facilities management can take over after construction. Alpin confidently takes control of your facility from design and construction, to completion and beyond.

TECHNICAL EXPERTISE

We work with superior caliber team members who have the competency, skills and experience to perform inspections, commissioning and startup at the highest of levels. Combine this with our patented technology/work flow process and you can rest assured that your development will be ready for operations without compromise.

PROJECT MANAGEMENT

We provide the best in class team to assist in or fully define and execute independent advisory audits, commissioning, start-up and completions. We approach projects by combining the skills of our highly experienced personnel, with our proven and highly productive way of working. We also employ standard project management tools such as BIM asset tagging software, Primavera and Aconex.

THE RESULT

Better project outcomes, delivered on-time at lower cost.



OUR TEAM

Internationally Experienced

Our consultants have worked in nearly every region of the world. They represent five continents and between them speak eleven languages. Having lived and worked in different countries, they fundamentally understand the dynamics within and between markets. All of our consultants have hands-on emerging markets experience.

OPERATIONAL TEAM LEADERS

Jourdan Younis

Managing Director (American)

Jourdan continues to build a robust consulting firm known for its commitment to quality and professionalism. Jourdan holds an MBA from London Business School and a BSc in Construction Management from California Polytechnic. He takes great pride in making a positive impact in the cleantech industry, exceeding client expectations and making Alpin a truly exceptional organization to be part of.

Rami Ghanem

Technical Operations Manager

Rami is a Mechanical Engineer who holds a Master's Degree in Building Services Engineering from Heriot Watt university Edinburgh UK with 11 years In Design, Supervision and Commissioning of Building services. He is deeply specialized in Commissioning, Energy Value Analysis, Renewable Energy Studies (Solar Cooling and Solar Heating) and has strong experience in project management and in electromechanical systems.

Nareg Oughourlian

Strategic Consultant

Nareg is a Construction Professional with a background in Mechanical Engineering who has advised developers, consultants, and contractors on the integration of sustainability in the built environment. With extensive experience in Sustainability and Commissioning for the built environment, he is leading our business unit and to leverage our value added services to partners and clients while ensuring that Alpin's core values are reflected and manifested.

CONTACT INFORMATION

Abu Dhabi Office

Courtyard & Incubator Buildings
@ Masdar Institute, Office 118,
P.O. Box 135097, Masdar City,
Abu Dhabi, United Arab Emirates

Tel: +971 2 234 6198

Fax: +971 2 234 6199

Email: contact@alpinme.com

Dubai Office

DWC Business Centre,
P.O. Box 390667,
Dubai World Central,
United Arab Emirates

Doha Office

Palm Tower, Block B
15th Floor West Bay
P.O. BOX 26600
Doha, Qatar

Tel: +974 4034 2073

Fax: +974 4034 2020

European Partner Office

Alpha GmbH (Munich, Germany)
ALPHA Energy & Environment GmbH
Landsberger Straße 98
80339 München, Germany

Kuwait Office

Al-Soor Street,
Al-Shamiya Tower, 16th Floor
Al Kuwait, Kuwait
Tel: +965 2233 1833