

Silverlink Trading & Partners

Design, Project Management & Construction Services
Capability Statement
November 2020



Silver Link Trading LLC



TSC Global



Ki-An AG
ENERGY TRADING AND CONSTRUCTION

GIBB

RVT ARCHITECTS

CONTENTS PAGE

Executive Summary	3
About Us	4
Why Us	5
Our Services	6
Project Leadership	8
SLT Chairman	9
Project Management	10
Project Finance	12
Contract Management & QS	14
Construction Services	16
Multi Disciplinary Design	18
Our Approach	20
Design for Value	22
BIM Statement	26
Sustainability Statement	28
Zero Carbon Technologies -Nudura	30
Design Innovation	32
Introduction to Ki-An AG	34
Zero Carbon Technologies -EfH	35
Relevant Projects	37
Appendices	45

EXECUTIVE SUMMARY

We are delighted to present our full technical , Project Management and Construction capability profile.

We are a consortium of companies that aim to design, build and maintain sustainable built environments and communities with a cost-effective, sustainable, low carbon and fast built approach.

Our people are international in perspective, with an understanding of working across cultural boundaries. We localise our services on a project by project basis, bringing best practice to the local market.

We have in depth knowledge of sustainable design, build and operational solutions. We adopt world leading technologies and cutting edge innovation in our approach to construction.

We develop projects to be highly sustainable and to LEED Platinum standards where the project produces energy that exceeds the requirements of the facility itself - a truly sustainable and carbon positive development.



ABOUT US

We are a consortium of companies that specialise in delivering sustainable built environments to work on many scales, thoughtfully designing public places and spaces, and to build on the unique local character and the best qualities of the forms inherent in that geographic region.

We offer cutting edge design as well as world beating innovative approaches to energy management and sustainability.

Our approach to construction delivery is world class utilising innovative building techniques that are routed in quality, sustainability and longevity. We build quickly with minimal site labour in a very cost-effective and environmentally friendly approach.

We offer robust and proven strategies in Project delivery management, Technical Excellence, effective Construction Methodologies, commercial management and facilities Management as required to suit the needs of the project.

Our team is composed of the following core entities: Silver Link Trading (SLT) LLC, RVT Architects, and GIBB.

Technically, we intend to tie-in the usage of the latest 3D GIS software for Town planning with all the stages of BIM design as depicted in the Design Chapter. We thus aim to integrate and co-ordinate the Design with the various services from the early stages of urban planning, architecture, construction and finally to the Facilities management of the ultimately built environment.

The team has significant experience in leading and delivering projects of varying sizes valued from a few million to 3.2 Billion USD

WHY US

Our approach to a project can be broadly described under 3 categories.

PROJECT LEADERSHIP

Clients are constantly looking for a more integrated delivery team in order to simplify the management of the delivery process and improve quality of the end product. Overall project delivery leadership will be provided by Silverlink who brings considerable experience and technological advances in construction delivery.

DESIGN EXPERTISE

Our partners have extensive experience in the design and build of a number of high profile projects across the globe in projects ranging from Housing to large Infrastructure and critical infrastructure projects. We are commercially minded and always look for the best interests of our clients.

INNOVATION

We are often quoted as thinking outside the box! We look at whole life costs of a project and always introduce a radical approach to design and technology. With the help of our partner Ki-An AG, we have developed opportunities for our clients where they have saved around 75% in opex costs while reducing cappex costs.



OUR SERVICES

PROJECT LEADERSHIP



The overall success of any project is attributed mainly to the leaders in charge of the project.

Project Leadership will be provided by Silver Link Trading Ltd. Along with key stakeholders from other sectors who will provide the authority to control and monitor every process of the project alongside making critical project decisions.

They are accountable for the entire project plan, the costs, schedules, and process plans.

MULTI-DISCIPLINARY DESIGN



The Technical Lead and Multi-Disciplinary Design will be led by RVT Architects.

The technical team comprises of a host of design professions from Architects, Civil and Structural Engineers, Mechanical, Electrical and Public Health Engineers, Fire Engineers, Acoustic Consultants, Facade Consultants, F&B consultants, Interior designers, Landscape architects with cutting edge expertise and world wide design experience.

PROJECT FINANCE



CC Solutions help the borrower, the lender, the exporter, and the ECA at every stage of the financing's life cycle:

During the planning and development stages of a project.

Prepare documentation needed to reach financial closing.

Managing the disbursement process accurately and transparently on behalf of the borrower and the exporter

PROJECT MANAGEMENT QUANTITY SURVEYING & CONTRACT MANAGEMENT



Silverlink can provide Project Management and Quantity Surveying. Its project management services cover the whole project, from inception to completion.

Cost, Price, Budget, Best Value, Business Case, Value Engineering, Procurement, Form of Contract, Value of Works, Variations, Change Control are all some of the most emotional elements of a project. Our experience of managing these correctly keeps your project moving on time and on budget.

CONSTRUCTION



Our construction & development company that embeds respect, integrity and honesty in everything we do. Our aim is to support our business partners to deliver projects that will have a positive impact on the local communities in which we live & work.

We believe in adding value to our clients, our communities and our partners by taking a leadership role in the built environment.

SUSTAINABILITY, INNOVATION & NET POSITIVE CARBON



The process of innovation in design stems from achieving the optimal outcome not just on the design side but on the operational process as well.

Our Design and Research and Development team have been involved with and developed ground breaking solutions for our clients by driving significant value in design and operations of a facility.

PROJECT LEADERSHIP SLT - SILVER LINK TRADING

Silver Link Trading LLC (SLT) started its retail operations in 1996 and has expanded to include NUDURA Insulated Concrete Forms (ICF) for the Construction Industry.

The company continues to develop its range of activities and services to best meet the modern needs of Oman and the markets in which it is aiming to be present.

The addition of NUDURA Insulated Concrete Forms (ICF) to SLT's portfolio is a natural evolution of the company's ethos of contributing eco-friendly, energy saving, sustainable and rapid build solutions.

The manufacturing process is a closely guarded secret, NUDURA ICF products offer clients durable, low maintenance, eco-friendly and fast building solutions with substantial benefits that contribute to long term energy savings. NUDURA ICF is LEED (Leadership in Energy & Environmental Design) certified and the products have patented innovative

technologies that are constantly evolving. The manufacturing process is a closely guarded secret.

NUDURA Inc. is leading the industry in product innovation and currently holds 90% of the Global ICF market where the product has representation.

The products are currently exported from manufacturing locations based in Canada and the USA.

SLT has experts that will aid in the design, setting up and construction of structures built with NUDURA ICF.

SLT CHAIRMAN HAKIM MAGID SOUD AL MAAMERI

Hakim has over 30 years of involvement in Commercial and Mega scale Construction and Real Estate Development in the Middle East.

In 1995 Hakim was voted Oman Manager of the Year. Throughout this period his acute business acumen has enabled him to adapt to the fast flowing changes in the directions that the region has followed.

His early career path had seen him involved in the full spectrum of the fledgling industries growing within the Middle East.

He is constantly looking for innovative solutions in various industries. He is a Partner-Adviser with BlueVoyant International Cyber-Security for the GCC States.

He is arguably Oman's most experienced expert and driving force in tourism related matters. Hakim led the project team for Oman's first Premier Tourist Resort at Barr Al Jissah operated by Shangri-La Hotels, Hong Kong.



SLT

PROJECT MANAGEMENT SERVICES

Silverlink can provide Project Management and Quantity Surveying. Its project management services cover the whole project, from inception to completion. They treat each project as unique and maintain momentum, which they see as two of the keys to project success.

Silverlink helps clients to maintain control of every aspect — quality, cost, programme, delivery and safety.

The Silverlink Project Management team is led by **David Skinner** who brings significant experience in project delivery in the region and across the globe.

DAVID SKINNER

David has 41 years experience in building civil engineering contracting, of which over 24 years have been spent in the Oman and 2 years in West Africa and is therefore comfortable in a multi-cultural environment.

David has over 10 years was spent on the civil side of multidisciplinary projects such as smelters, power stations and process plants and has therefore a high appreciation of the interfaces on such projects.

As Regional Manager in Oman for Carillion Alawi, controlled the complete business from work winning to project delivery and closeout with at times over 20 No live projects.

David's experience also includes setting up Carillion's operation in Egypt, Operations Director (Building) Leighton to head up and grow their building division, Operations Director, subsequently Director – Civil Construction Division of Al Turki Enterprises, Oman, VP Civil / Buildings at CCC.



PROJECT FINANCE

CC Solutions was established by former banker and corporate executives in 2011 to bridge gaps between parties in export credit agency (ECA) transactions.

We help the borrower, the lender, the exporter, and the ECA at every stage of the financing's life cycle:

- During the planning and development stages of a project, we can help maximise the size of the financing and determine which ECAs can be involved
- As the financing progresses towards financial closing, we can help the borrower, the exporter and the lender prepare documentation needed to reach financial closing
- Following financial closing, we streamline the disbursement process by completely managing the disbursement process accurately and transparently on behalf of the borrower and the exporter



CONTRACT MANAGEMENT & QUANTITY SURVEYING SERVICES

Cost, Price, Budget, Best Value, Business Case, Value Engineering, Procurement, Form of Contract, Value of Works, Variations, Change Control are all some of the most emotional elements of a project. Our experience of managing these correctly keeps your project moving on time and on budget.

Our experienced Quantity Surveying team have a background of working for Private and Public Sector clients and contracting organisations, providing a unique, methodical and logical approach to our services and advice. We will ensure that you receive accurate, consistent and timely information throughout the life of the project to help ensure key decisions can be made to keep the project on time and on budget and your interests and investments are protected from the outset.

Our Quantity Surveyors work collaboratively with you to ensure they are at the heart of your project and have deep knowledge of your deliverables and key metrics for your scheme..

WILLIAM H BAXTER

Baxter Consulting and Business LLC and Baxter and Co Consulting Ltd are companies formed to facilitate the engagement of William H Baxter F.R.I.C.S. a chartered quantity surveyor practising as a professional consultant in Oman. The consultancies engage in matters concerning the commercial performance of construction contracts as well as the resolution of disputes arising therefrom either in the preparation of claims or in providing expert witness testimony.

The services provided are the culmination of a 50 years history of professional practice in traditional construction projects but later specialising in heavy industrial projects, refineries, pharmaceutical and energy projects in senior management positions and as latterly as a commercial director of a UK MEP contracting company.

After this experience for the past 25 years I have undertaken consultancy work with some of the leading European companies on projects mainly (energy projects) throughout the world upon which my current activities with my two companies were formed to pursue and undertake commissions in Oman.



CONSTRUCTION SERVICES



TSC LLC is a 100% American, Service-Disabled Veteran Owned Small Business. The firm established in 2014 with the aim of creating a disabled veteran-owned business that excels in its technical capabilities while also setting a positive example and starting point for veterans that desire to enter the engineering and project management field.

TSC provides international consulting services with a focus on sustainability in engineering, construction, and project management. Its reach of projects spans the globe. TSC's professionals have experience working in the private, public, and non-profit sectors. This experience has honed the firm's professional approach to meeting its clients' needs.

TSC's experience with varied government projects has been invaluable towards creating its professional approach to meeting clients' needs. TSC is comprised of experts experienced in development projects for emerging economies as well as post conflict environments.

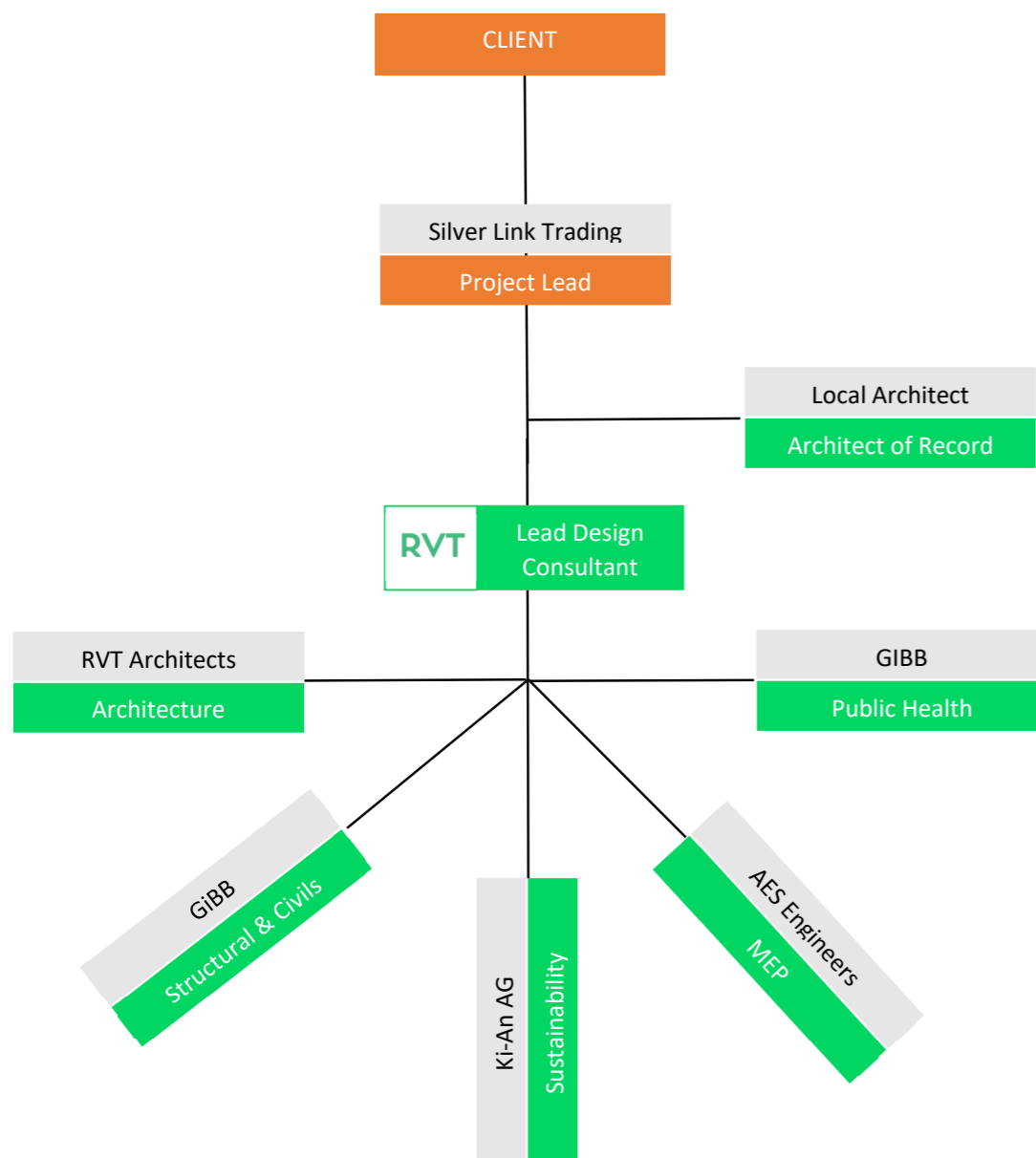
TSC's goal is to build sustainable projects that benefit humanity and the global economy while ensuring the wisest use of the world's natural resources and keeping the focus on the future.

The firm is committed to creating projects that meet immediate human needs effectively and at the same time protecting the world's natural resources.



MULTI-DISCIPLINARY DESIGN

The success of the project relies on effective communication and collaborative working across all design disciplines. The diagram below describes Cross Office working structures and strategies for effective communication between offices of Lead Design Consultant, client and sub consultants.



DESIGN PROJECT TEAM LEADS

Our team will include clearly defined roles for project management, design management and design co-ordination that will manage the interface between the design team and Silver Link Trading – which complements the Architect in the Lead Designer Role. This ensures the innovative and creative design of the project objectives are achieved and fully co-ordinated.

Overall direction is with Team Lead and Lead Architect **Rolland Velho RIBA** (Director RVT) who brings significant architectural, technical and project delivery management expertise to the project. He has over twenty years' experience of delivering major projects, across a variety of sectors, in a controlled and regulated environment. His role will be one of strategic leadership on architecture and technical issues, commercial and client relationship.

Design Management and MEP project management will be led by **Nirupa Gumani** (Technical Director, AES) who is a highly experienced Chartered Engineer with over 18 years of infrastructure experience. She is a highly skilled engineer and is recognised for her ability to lead teams, delivering world class infrastructure on time and within budget.

Dr Fariborz Shahbakhti (Managing Director, AES) is the Project Director and lead for the MEP Design and is a Chartered Electrical/ Electronics Engineer and a fellow member of IET. Dr. Fari has more than 35 year's project experience in the UK, Europe and the Middle East. Fari has an in-depth knowledge of the Building Services (MEP) Industry and has experience in all facets of the Built Environment ranging from Data Centres, Control Centres, Hospitals, Retail, Residential, Large- and Small-Scale Commercial Developments and aviation.

Michel Young Ten (Director of Projects, GIBB) who is the lead for the Civil Engineering Design and Delivery. Michel has strong technical skills developed through extensive international design and construction experience.

The structure of the design team will grow as required to best suit the project which may include the Architect/ Engineer of Record, Fire Engineer, Planning Consultant etc.

OUR APPROACH

We adopt 5 core design principles that influence the design of the project:

PLACEMAKING

We ensure that the building draws inspiration from its surroundings and enhances them, positively contributing to the quality of the local area.

INNOVATION

We use our technical expertise and our experience of the residential sector to create genuinely innovative architecture that is developed from sound first principles, not copied from other styles and formats.

DESIGN FOR VALUE

We design the client's building to be attractive, highly functional and fit for purpose, with the best commercial attributes possible.

SUSTAINABILITY

We ensure that the building not only meets all current environmental requirements, but also is capable of meeting the potential requirements of the future.

ELEGANCE

By developing a three-dimensional concept of the building, we make sure that it meets the client's expectations, as well as the functional, economic and aesthetic requirements of the brief.

At RVT we apply an expert design methodology and rigorous appraisal to all developments in order to deliver sustainable and memorable buildings that meet the particular objectives of our clients as well as the complex objectives of the future occupants.



DESIGN FOR VALUE

The value of any development is determined in the early project decisions. Time invested in testing a brief and design strategy brings payback on delivery.

RVT will lead the process of design value analysis. RVT Architects' approach to designing for value can be understood through the following detailed areas:

- The Brief
- Site Planning & Layout
- Building Metrics
- Building Elemental Design
- Delivery

THE BRIEF

Development viability can be aided by a creative design strategy. Testing the detail of a brief will also unlock potential value, or make a development more suitable for the market.

SITE PLANNING & LAYOUT

Site layout needs to maximise the best latent qualities in the site. By matching the product to an active market, values could be ascertained and project viability determined. Buildings are never conceived in isolation from the opportunities presented by the site. Responding to context can radically influence the return a development may

SITE PLANNING & LAYOUT

Cost management through design efficiency

The correct strategy to structural set-out and preemptive layout planning allows maximise efficiency in the delivery of marketable space.

Stacking different grid systems can require structural transfer.

Careful analysis of building loads as they pass into the ground is required in any peer review to ensure expensive structural transfer is mitigated.

Compatible structural grids and fit-out planning grids are essential to eliminate space wastage. The Market will not pay for space deemed unusable.

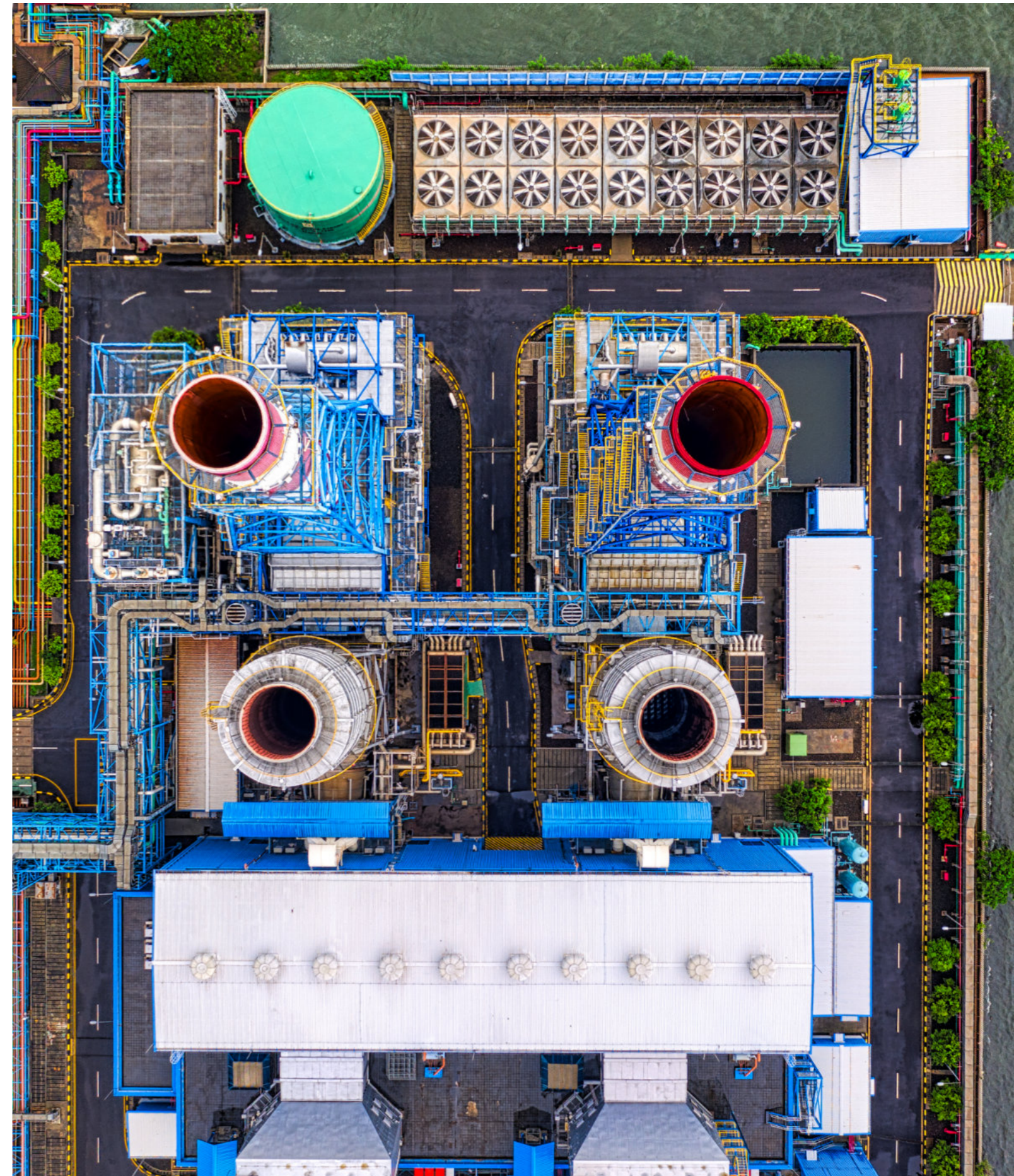
Similarly the use of standardised modular building components, such as facade panels or ceiling tiles, needs to be coordinated with a structural and fit-out planning grid that provides compatible dimensions. Any other approach attracts a premium for installation of bespoke components.

BUILDING METRICS

Exploiting creative engineering input RVT work within a collaborative design team environment, to best capitalise on creative consultant input.

Building Metrics can be explained through the following parameters:

- Wall/Floor Ratio
- Net/Gross Ratio
- Vertical Core Ratio
- High Cappex component Ratio



Wall/Floor Ratio

The ratio of the area of façade to the area of floorplate it encloses determines how expensive the façade provision is in relation to the income generated by the floorplate. For commercial office development, the cost of the façade can represent 30% of the construction cost. For such a high percentage,

It is vital the correct façade strategy is adopted to avoid excessive capital outlay.

Net/Gross Ratio

Maximising the efficiency of the plan

The ratio of the capital build cost to the investment return can be radically changed on any proposed site development by optimising efficiency. The statement of efficiency of any building is captured in the Net:Gross ratio; the ratio of net rentable (or saleable) area to gross floorplate area.

Vertical Core Ratio

Vertical circulation cores which includes reinforced concrete stairs and possibly elevators are costly. Moreover increase in core area reduces the efficiency of Net to Gross. The leaner and lesser numbers of cores, the more commercially efficient the development.

High Cappex component Ratio

The use of Nudura and Hollow Core Slabs in the project significantly enhances programme times resulting in an overall delivery savings in excess of 30%. The costs of these products should be balanced against benefits derived from their use.

BUILDING ELEMENTAL DESIGN

Controlling M&E Costs

For some residential, commercial office, hotel and retail developments, M&E costs can represent 25% of the overall construction cost.

As such, any movement in this figure can make significant impact on project viability

Adopting Nudura to achieve a highly insulated skin and reducing air leakage will reduce the need for active heating and cooling. Energy required for thermal comfort could be reduced by over 60% which results in lower capex and opex costs.

We develop zero carbon or carbon positive solutions to design with the help of our partners Ki-An AG. This allows the end user to benefit from very low operational energy costs resulting in an Opex saving of over 70%.

DELIVERY

Understanding how design determines the process and the benefits of modern methods of construction (MMC)

RVT have extensive experience in the design of buildings for prefabricated construction assembly. There are a number of key benefits, including cost reduction through mass production, quality improvement in factory conditions and the compression of the construction program.

Through the analysis and adoption of the brief, RVT can promote and reuse significant value benefits through the use of modern methods of construction.



Use of Modern Methods of Construction

BIM STATEMENT

RVT have been Level 2 BIM proficient since its inception and have extensive experience working with it on multi-disciplinary projects.

Building Information Modelling (BIM) is not simply about producing drawings from 3D Models, it much goes further than that. BIM goes beyond the planning and design phase of the project and extends throughout the building life cycle - from early concept through to demolition.

The BIM process embraces not just new technology but critically a new philosophy of working. Traditional work processes are supplanted with all parties now operating within a common information pool. This collaborative working realm aligns with new work practices and enables higher quality output and more efficient communication.

The resulting single source of co-ordinated information on a common platform provides tangible benefits to all parties throughout the design and construction process and an ongoing resource for building owners and occupiers

TYPICAL WORKFLOWS

RVT has operational experience in facilitating re-purposing of project information to encourage use of digital processes to inform key decision-making.

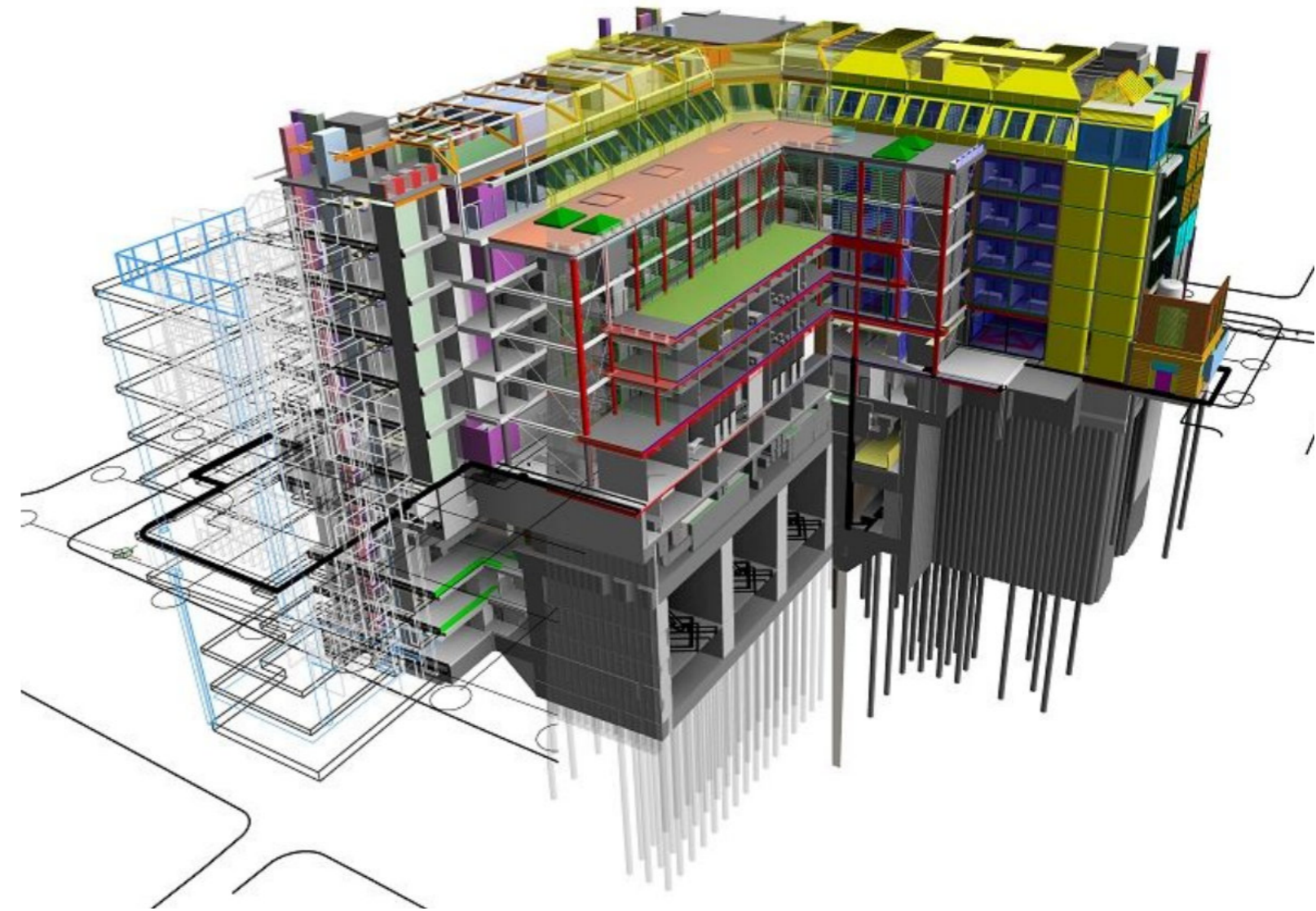
2D - traditional documentation and drawings supported by BS1192

3D - use of smart elements providing a virtual digital prototype of the facility suitable for clash rendition & quantity take-offs.

4D - time based construction & logistics planning.

5D - cost control through distinct classification of elements to ensure specialist applications can access information directly from our models.

6D - operational applications, capturing relevant data during the design and construction phases and providing opportunities for a digital transfer of information for life cycle management.



SUSTAINABILITY STATEMENT

Our sustainability approach is robust but flexible, allowing a customised response to our clients' brief. Our experience in sustainability and enthusiasm in the international environment, integrates strong links to harness the benefits of BIM and zero carbon construction methodologies. We provide an opportunity for clients to assess the integrity of an investment at the post occupancy stage.

At SLT, we believe sustainability is not an expensive addendum. Clients around the world are interested in the economic aspect of an investment, and how sustainability can bring satisfactory returns during the buildings life cycle.

We are very keen to create practical benefits in line with our clients' sustainability aspiration which can be materialised through high rental income, short or long term sales value, low operational cost, financial consideration, achieving project efficiency that will

contribute to social, economic and environmental aspects for a project and the wider society.

In the midst of a transitional period over the sustainability standards and legislation changes, SLT has demonstrated a proven track record of delivering a range of successful and sustainable buildings which suit and carefully caters to the clients' ambition.

We understand that a sustainable development and environmental design must meet the needs of the present without compromising the ability of future generations. At SLT we embrace the ethos of 'design for sustainability'.

This ethos means building sustainability into design and project development, creating cleaner processes, and considering the environment and social impact of our construction activity.



DESIGN INNOVATION

The process of innovation in design stems from achieving the optimal outcome not just on the design side but on the operational process as well.

The team have developed ground breaking solutions for our clients by driving significant value in design and operations of a facility. We have produced options which reduce operational costs to a quarter of what it should be. Moreover on that particular project, the innovation in design proved that it could save over 14,000 tonnes of CO2 in a year.

The design team work closely with our partners who specialise in providing optimised innovative solutions in reducing energy usage.



ZERO CARBON TECHNOLOGIES

NUDURA

Heat gain due to heat from the sun (solar radiation) and heat from surfaces (long wave infrared radiation) will increase ambient temperatures within a building. In areas where external temperatures generally exceed 30 degrees Celsius causes overheating in traditional RC framed buildings. High levels of air-conditioning are required to reduce temperatures to a comfortable level.

Any intervention to reduce ambient temperatures within the building would reduce the energy required for cooling.

Reduction of external heat gain is typically achieved by introducing insulation to the fabric of a building. An R-value is, in short, a number that tells you how good a material is at resisting the flow of heat. The higher the R-value of the insulation, the better the insulation.

RVT propose the use of Nudura® XR35 with an R value of 35. The XR35 is used in passive homes and provides the best ICF insulation properties in the world. In addition the use of ICF will provide an air tight environment which will further reduce external heat gain.

Adopting Nudura to achieve a highly insulated skin and reducing air leakage will reduce the need for active cooling. Energy required for thermal comfort could be reduced by over 80% which results in lower capex and opex costs.

In addition, the use of Nudura provides other significant benefits that could be essential in the design of various facilities.

REDUCED CONSTRUCTION TIME

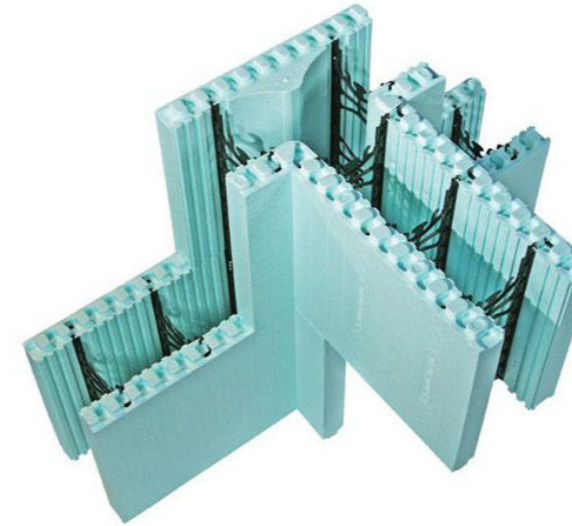
ICF's are quick to install resulting in significantly fast build times and involving a much smaller workforce than traditional developments. Buildings can therefore be operation in a short time frame resulting in quick Return of Investment (ROI)

REDUCED AIR CONDITIONING COSTS

Thermal mass in ICF walls create a more efficient environment that can reduce heating and cooling costs by up to 75% a year. It also creates consistent optimum temperatures providing comfortable spaces requiring minimal air conditioning.

DISASTER RESILIENCE

Nudura® structures can withstand wind resistance of up to 250 mph (402 kph), equivalent to an F4 tornado. Nudura walls inherently provide up to 4 hours of fire protection which is vital in some project applications.



REDUCED CONSTRUCTION TIME
Faster Build Time
Significantly less site labour
Quick ROI



LOW ENERGY BILLS
Thermal mass walls create a more efficient building Heating and cooling costs reduced by up to 75%



SUPERIOR COMFORT
Consistent optimum temperatures provide a premium comfortable space with minimal air-conditioning



BOMB BLAST PROTECTION
Enhanced protection from physical attacks
Tested and used by US Military



REDUCED AIR CONDITIONING COST
The reduced cooling demand means significantly reduced air-conditioning costs



DISASTER-RESILIENCE
Nudura ICFs can endure winds equivalent to an F4 tornado and provide fire protection for up to 4 hours

INTRODUCTION TO Ki-An AG



Ki-An AG is a Swiss based global energy consultancy and solution provider working in the field of recycling waste energy and integrating standard and bespoke innovative and sustainable energy generation solutions to help companies meet climate change targets, work more efficiently and significantly reduce energy demands and costs.

Ki-An AG is an innovator and works with a multitude of clients across industry sectors.

Currently it is engaged in a number of Data Centre Energy projects in Europe and the Middle East.

At Ki-An AG we implement a bespoke and innovative, expertly design solution to maximise power generation from waste energy and sustainable off grid methods. This ensures a holistic whole life approach to sustainability and operational expenditure.

ZERO CARBON TECHNOLOGIES ENERGY FROM HEAT (EfH)

INTRODUCTION

There is a significant amount of heat generated in Data and telecoms sectors, industries and and energy generation processes. This heat is predominantly treated as excess heat or waste rather than a resources. This "waste heat" occurs in almost all mechanical and thermal processes.

ADVANTAGES

Recovering waste heat can lead to many advantages,

- Great for the environment: an efficient use of energy can reduce fossil fuel consumption for power generation and the related emissions in the atmosphere.
- Energy generation from waste heat provides a great opportunity for the user by reducing spend on energy purchase and thereby improving their competitiveness in the market.
- If the waste heat cannot be re-used in the internal processes, it can represent a new income source by selling it to other companies.
- If combined with other passive and environmentally sustainable power sources, EfH could turn the facility into a truly zero carbon operation.



WASTE HEAT SOURCES

Waste heat occurs in almost all mechanical and thermal processes. The most significant amounts of waste heat are lost in the industrial and energy generation processes.



PROCESSES WITH EXHAUST AIR

Between 30% and 90% of waste heat can be utilised for preheating fresh air for heating or process heating supply or electricity generation.



COOLING SYSTEMS

Between 35% and 95% of waste heat from cooling plants can be utilised for preheating fresh air for heating or process heating supply or electricity generation.



AIR COMPRESSION FACILITIES

Up to 90% of the electrical capacity can be recovered for heating or warm water supply or electricity generation.



VENTILATION TECHNOLOGY

Between 35% and 90% of waste heat can be utilised for preheating fresh air or electricity generation.

TECHNOLOGIES

Rising energy costs have led to increased business interest in operating costs, including energy use and efficiency. This, coupled with a continued focus on carbon reduction, requires innovative engineering solutions to ensure traditional energy consumption is reduced to meet legislative targets.

Establishing an efficient way to convert excess energy into a reusable electrical energy is the primary factor in system design strategy.

Ki-AN AG utilises a combination of technologies to arrive at a truly environmentally sustainable and highly efficient operation with significantly reduced operational costs as compared with similar traditionally run facilities.

An example of some technologies are listed across.



ORGANIC RANKINE CYCLE

Convert lower temperature heat into electricity.



EMISSION FREE ENERGY

Convert process heat into electricity.



THERMOELECTRICS

For smaller applications to turn heat into electricity.



STEAM TURBINE TECHNOLOGY

For larger scale facilities with high temperature processes.



RENEWABLES

Used in tandem with EfH to boost energy supply.

APPENDICES

