

Kaer Air

How a “product-as-a-service” business model is disrupting the real estate industry

The Million Dollar Question

Building owners all over Asia are looking for innovative ways to create better experiences for their customers. But before they can get to this important task, they have to put some basics in place. Their buildings need to have power, water and air-conditioning. Without these core services, there is no customer experience to worry about because there are no customers.

So, building owners simply sign a contract with a power provider to buy power on consumption basis. A unit rate and a pay-as-you-use model. Same thing for water. But the question is.

Why is air-con different?



Today, to provide a comfortable environment for their customers many building owners invest capital and resources into owning and operating an air-conditioning system. This comes with a long list of financial and operational challenges and requires continuous investment to ensure the performance of the system.

In short building owners are forced to take on additional business risk and manage a non-core activity that negatively impacts their asset performance, yield and valuation.



Joining the “as-a-service” economy

We are witnessing a mass migration from the traditional ownership model to a world where consumers simply subscribe for access to content and services. This global phenomenon has caused disruption in nearly every industry with large incumbents being toppled by new players in the market. Music, hotels, travel, telecoms, transport, data and even construction and manufacturing.

Seeing the transformative effects of this business model we applied it to the single largest pain point for building owners in Asia to see if we could bring the “product-as-a-service” benefits to the real estate industry.

Kaer Air: Air-Conditioning as a Service

Instead of investing in and operating air-conditioning equipment, building owners simply dictate the conditions they want to achieve in their space.

Kaer assumes all financial and operational responsibility to deliver the conditions and the building owner simply buys air-con at a fixed \$/RTH rate on a pay-as-you-use basis.



kaer

Pay-as-you-use

Power: \$/kWh

Water: \$/m³

Air: \$/RTH

A shift in focus

The Kaer Air business model allows building owners to dedicate their time and capital to providing unique experiences for their customers whilst Kaer is fully accountable for providing the conditions they need.

“Think about Singapore Airlines. They will take an aircraft from a Boeing or an Airbus and then customise it and turn it into something that allows them to fulfil their mission. They are best-in-class in terms of delivering an experience to a passenger. They don’t need to be or want to be best-in-class at building aircraft. Because that’s a totally different business. That’s like Kaer Air. We will build the system and give the climate within the building to the owner, and they then take that and turn it into what they want to package and deliver to their customers.”

Justin Taylor, CEO at Kaer

An era of exponential change and disruption

Like many other “as-a-service” brands, Kaer has seen exponential growth over the past 5 years and now serves over 10 Million square feet of space across 3 countries. Customers include Global REITs, Developers, Educational Institutions, Industrial Parks and Data Centres.

In addition to adding assets to the Kaer portfolio, the Kaer Air business model has been recognised by the Business and Sustainable Development Commission alongside global brands like Netflix, Google, Airbnb and Alibaba.

In a recent report Kaer Air was heralded as one of the top 18 Global Breakthrough Business Models to tackle the UN Sustainability Development Goals (UNSDGs).



Investing in the future

The next chapter for Kaer looks nothing like the last. The transition to the Kaer Air Business model has transformed the organisational structure and opened new doors for technology development. Kaer’s first AI algorithms were launched in 2017 with the second version of the software launched in 2019.



Kaer’s engineers are also experimenting with data visualisation, modelling and VR technologies that could totally change the way we design, build and interact with our buildings.

A business model with Sustainability at it's core

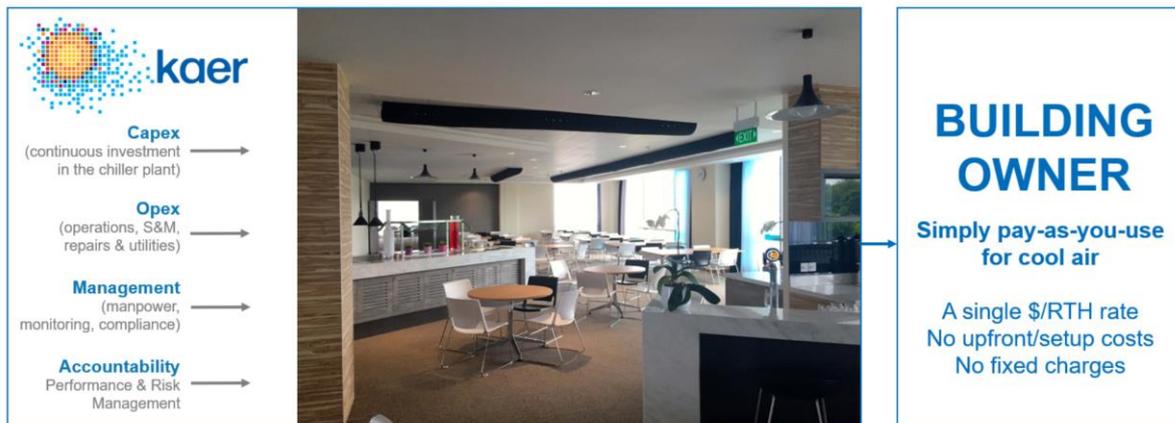
Kaer offers 2 variables of the “as-a-service” model (Kaer Water and Kaer Air)

Kaer Water Pay-as-you-go



Customers that sign up for Kaer Water dictate the chilled water conditions they require and Kaer delivers that as and when needed by the buildings air-side equipment. In this model Kaer is responsible for all chiller plant equipment.

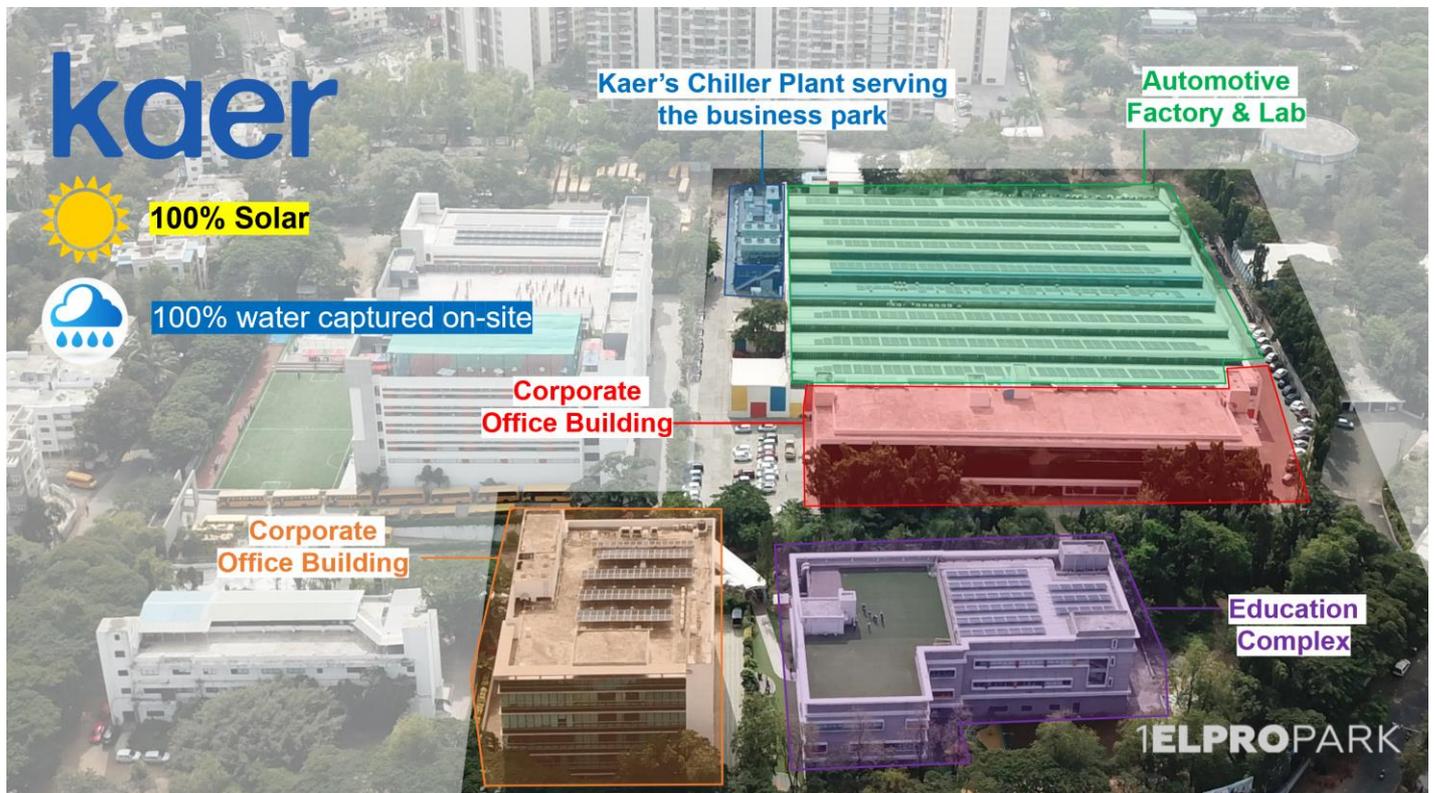
Kaer Air Pay-as-you-go



Customers that sign up for Kaer Air dictate the space conditions they require (e.g. Temperature and humidity) and Kaer delivers this as and when needed. In this model Kaer is responsible for all chiller plant equipment as well as the air-side equipment.

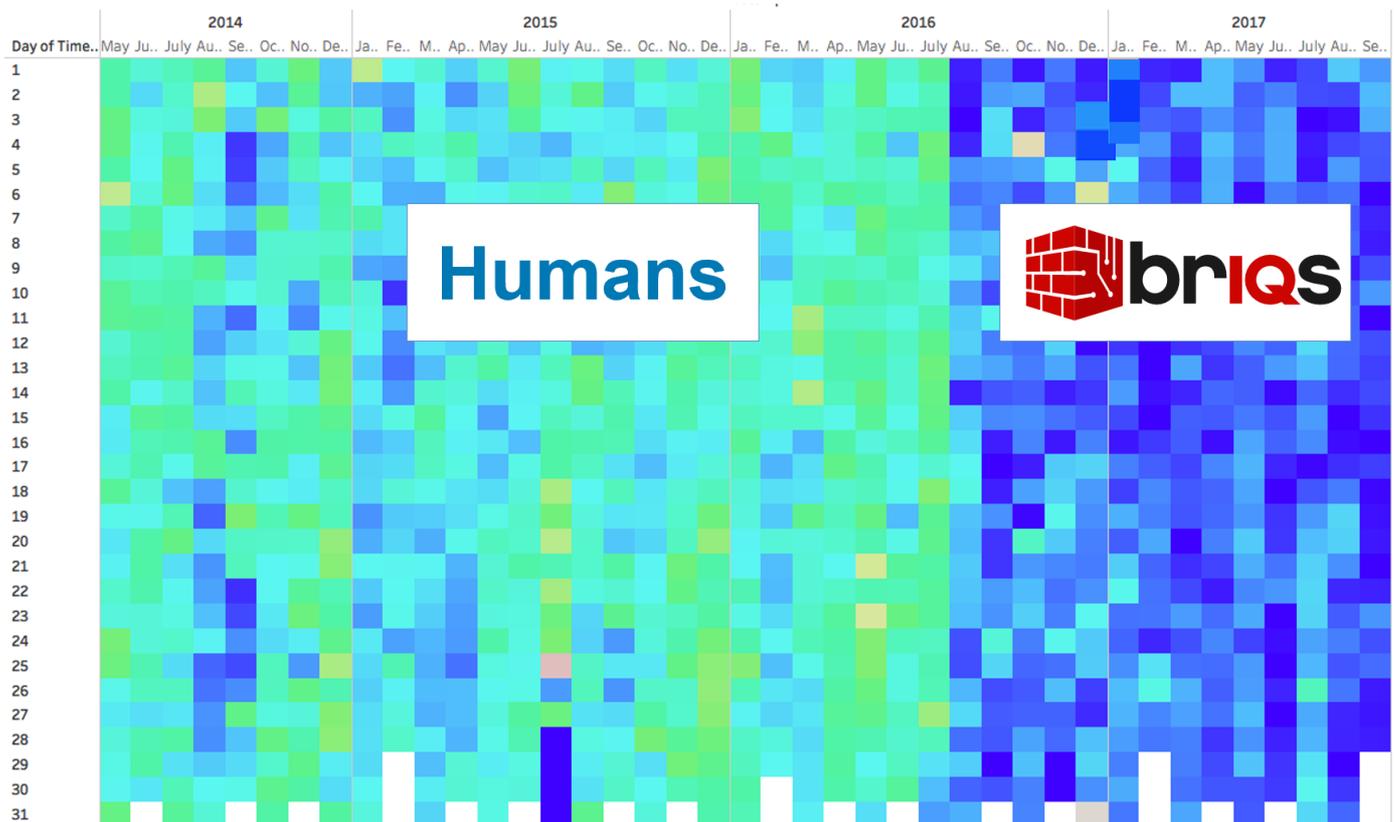
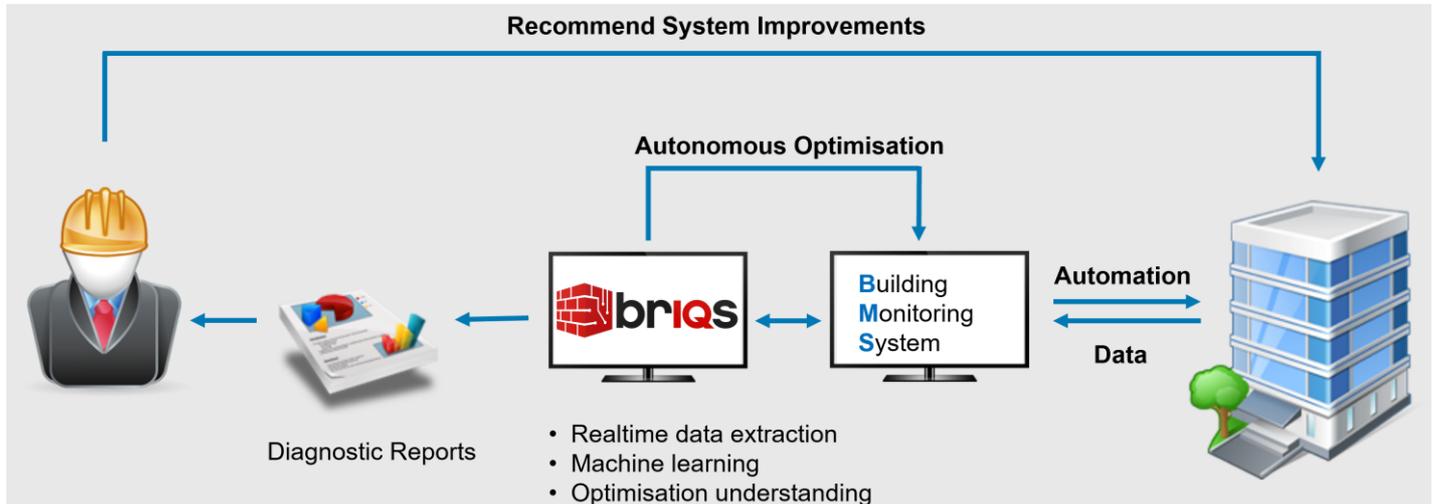
Although the deliverable is different in Kaer Water (chilled water) and Kaer Air (cool air), the fundamental principle remains the same and Kaer is responsible for all capex and opex involved in providing the deliverables (including the electricity consumption of the chiller plant). This is the key and because of this, the burden of efficiency is transferred from the building owner to Kaer. Kaer is incentivised in real-time to be as efficient as possible which has resulted in the greenest and most sustainable air-conditioning systems in Asia. Every single asset in the Kaer portfolio is served by a chiller plant that meets or exceeds the Green Mark Platinum efficiency criteria.

In addition to this, the air-conditioning systems of many of our customers are powered by 100% solar generated on-site and 100% recycled water making them the world's first example of truly 100% renewable systems.



Disruptive Technology

The Kaer Air business model has resulted in a large portfolio of assets under our management which can justify higher investment in R&D. To support our operations Kaer's R&D team developed one of the world's first (if not the first) fully autonomous optimization software (known as briQs) for air-conditioning systems. briQs uses machine learning and artificial intelligence to analyse the dynamic interactions between all of the ACMV components in a system and tweaks control variables to deliver the most efficient settings at any given point of time.



Global Recognition

"We are extremely happy with the Kaer Air model as it allows us to simply buy air-con and focus on other activities, all in the knowledge that the chiller plant is being run at the highest possible levels of efficiency."

James Middleditch

Director of Operations & Campus Services,
INSEAD Singapore

"This ground breaking move decreases operating costs as well as maximises the energy performance of the buildings. The deal with Kaer will help us achieve and set new standards in terms of our metrics for energy savings, sustainability and is fundamental in us achieving Singapore's first Green Mark Platinum 2015 project."

Richard Paine

Managing Director of Paya Lebar Quarter,
Lendlease



"We appreciate the services rendered by Kaer under the Kaer Air business model that has contributed in achieving the desired indoor conditions for our manufacturing facilities."

Annie Yap

Senior Project Manager, Commonwealth Food Services

"This innovative business model, which reduces the cost of utilities while ensuring the performance of the air-conditioning system at the same time, will help to significantly improve building efficiency."

Tan Swee Yow

President, Singapore Green building Council



Chief Digital Officer

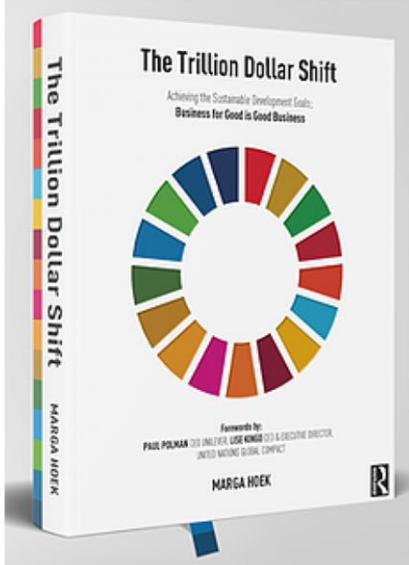
"Kaer's story and achievement in its business journey demonstrated the most impactful transformation on itself, its customers and its customer's customers. They have changed the business and process model of how air conditioning systems should be managed."



"An innovative company based in Singapore has developed an air-con as a service (ACaaS) model, that could lower costs, increase profits, and make a significant contribution to mitigating the environmental impact of the most important megatrends facing the next generation: climate change and urbanization"



18 Global case studies of
business models that are
changing the world



"Kaer Air is a win-win business model. It lowers demand for the product it sells and delivers the highest performing, most reliable air-conditioning systems for it's customers."

Marga Hoek

Author of The Trillion Dollar Shift