

SUMMARY REPORT

BUILDING SUSTAINABLE FUTURES IN THE EU & KSA - SMART BUILDINGS & SMART TECHNOLOGIES

held on 6 March 2024, Riyadh, KSA



EU-GCC Dialogue on Economic Diversification

A project funded by the European Union

Event: Building Sustainable Futures in the EU & KSA - Smart Buildings & Smart Technologies

AGENDA

Opening Remarks

- **Mr. Thomas Juergensen**, Minister Counsellor, Head of the Trade Section of the European Union Delegation to Saudi Arabia, Oman, & Bahrain

SESSION I: SMART TECHNOLOGIES FOR NEW AND EXISTING BUILDINGS

Presentations:

1. 'Implementing Smart Technologies in Buildings' by **Mr. Firas Obeido**, CEO at E2E Arabian (SmartAE)
2. 'Building Operating Systems' by **Mr. Mohammed Sheik Ali**, Vice President – Head of Building Products, Siemens Ltd.

Panel Discussion:

Technologies for Smart Buildings

Panelists:

- **Mr. Firas Obeido**, CEO at E2E Arabian (SmartAE)
- **Mr. Gusts Kossovics**, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)
- **Mr. Mohammed Sheik Ali**, Vice President – Head of Building Products, Siemens Ltd.
- **Mr. Mohamed Moselhy**, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)

Moderator: **Mr. Antonio Pelaez**, Smart Buildings Expert with GFA Consulting Group GmbH

SESSION II: POLICIES FOR A STABLE ENVIRONMENT FOR SMART BUILDINGS & SMART TECHNOLOGIES

Presentations:

1. 'Policy framework for smart buildings in the EU' by **Sr. Stefan Moser**, Head of Unit Building and Products, Directorate-General for Energy European Commission (Online)
2. 'The Smart Building Potential' by **Mr. Gusts Kossovics**, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)

Panel Discussion:

Policies for a Stable Environment for Smart Buildings and Smart Technologies

Panelists:

- **Sr. Stefan Moser**, Head of Unit Building and Products, Directorate-General for Energy European Commission (Online)
- **Mr. Gusts Kossovics**, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)

Moderator: **Mr. Douglas Aitkenhead**, Team Leader, EU-GCC Dialogue on Economic Diversification Project

SESSION III: THE MARKET POTENTIAL FOR SMART BUILDINGS IN KSA AND INNOVATIVE BUSINESS MODELS

Presentations:

1. 'Smart Buildings Potential in KSA' by **Mr. Fouad Zayed**, MEA Director for Buildings, Digital Energy, Global Operations, Schneider Electric
2. 'Innovative Business Models for Smart Buildings' by **Mr. Mohamed Moselhy**, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)

Panel Discussion:

KSA Smart Buildings Market

Panelists:

- **Mr. Fouad Zayed**, MEA Director for Buildings, Digital Energy, Global Operations, Schneider Electric
- **Mr. Mohammed Sheik Ali**, Vice President – Head of Building Products, Siemens Ltd.
- **Mr. Mohamed Moselhy**, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)

Moderator: **Mr. Antonio Pelaez**, Smart Buildings Expert with GFA Consulting Group GmbH

Session IV: Open Forum

Open forum discussion, including Q & A from participants to all speakers.

Moderator: **Mr. Douglas Aitkenhead**, Team Leader, EU-GCC Dialogue on Economic Diversification Project

Closing Remarks

Mr. Douglas Aitkenhead, Team Leader, EU-GCC Dialogue on Economic Diversification Project

Executive Summary

This summary report encapsulates the discussions, presentations, and interactive sessions held during the event focused on the Smart Buildings market in Saudi Arabia on 6 March 2024 at the Rosh Rayhaan by Rotana Hotel. The event brought together industry leaders, technology providers, government representatives, and stakeholders to explore current trends, challenges, and opportunities within the smart buildings sector, particularly in light of Saudi Arabia's Vision 2030.

Key Takeaways:

- 1. Market Potential & Challenges:** The smart buildings market in Saudi Arabia is burgeoning, driven by Vision 2030 and an increasing awareness of sustainability and energy efficiency. However, challenges such as high initial costs, lack of standardization, and integration complexities of disparate systems persist. Retrofitting existing buildings remains a significant challenge but offers a substantial market opportunity.
- 2. Innovative Business Models:** To overcome financial barriers and encourage adoption, innovative business models such as public-private partnerships (PPPs), service-based models, and performance-based contracts are recommended. These approaches can make smart building technologies more accessible and financially viable for a wider range of customers.
- 3. Training and Capacity Building:** There is a critical need for comprehensive training programs across all stakeholder categories to ensure proper implementation and operation of smart buildings. Enhanced training efforts will help bridge knowledge gaps and ensure that all parties, from engineers to end-users, are adequately prepared to utilize and maintain smart building technologies.
- 4. Indoor Air Quality & Health:** Indoor air quality emerged as a significant aspect of smart buildings, impacting occupant health and productivity. Participants recognized the need for advanced monitoring and control systems to ensure optimal indoor environmental quality.
- 5. Technology Integration & Interoperability:** The integration of technologies from different vendors and ensuring interoperability are essential for the successful implementation of smart buildings. Open protocols and standards are necessary to enable seamless communication between systems and devices.
- 6. Regulatory Frameworks & Standards:** There is a clear need for consensus on standards and regulatory frameworks to foster the growth of the smart buildings market in KSA. Collaborative efforts between government bodies, industry stakeholders, and international partners are crucial to establish clear guidelines and encourage market compliance.
- 7. Impact of Vision 2030:** Saudi Arabia's Vision 2030 acts as a significant catalyst for the smart buildings market, driving initiatives that promote sustainability, efficiency, and innovation. However, achieving these ambitious goals requires collaboration between the government and private sectors to implement effective strategies and solutions.



Opening Remarks: Mr. Thomas Juergensen, Minister Counsellor, Head of the Trade Section of the European Union Delegation to Saudi Arabia, Oman, & Bahrain

- The EU and GCC, especially Saudi Arabia, share interests in diversifying their economies and tackling global challenges like climate change.
- A new era in the construction and real estate sector is emerging, marked by smart building technologies that enhance efficiency, sustainability, and quality of life.
- The EU's policies, including the Energy Efficiency Directive and the European Green Deal, emphasize the importance of smart buildings for sustainability and economic diversification.
- Collaboration with Saudi Arabia focuses on forming lasting partnerships to achieve mutual goals of economic diversification and environmental sustainability.
- The event features speakers from the EU and KSA discussing policy frameworks, regulatory environments, and advancements in smart technology.
- Appreciation is expressed to the hosts, organisers, and participants for their commitment to innovation and sustainability in the building sector.



SESSION I: PRESENTATION

'Implementing Smart Technologies in Buildings' by Mr. Firas Obeido, CEO at E2E Arabian (SmartAE)

- Smart technologies in buildings are rapidly advancing, integrating machine learning and AI to enhance efficiency and sustainability.
- Developments span from sensor hardware and architectural solutions to software integrations, promoting smart, hyper-efficient buildings.
- Future buildings focus on four key aspects: efficiency (optimizing systems and workflows), resilience (quick recovery from issues), sustainability (reducing carbon footprint), and interactive environments (responding to occupants and conditions).
- Emphasis on reducing carbon emissions, with buildings contributing to 40% of global emissions, and improving indoor air quality post-COVID-19.
- Introduction of sensors for CO₂, VOCs, and other contaminants to monitor and improve indoor air quality, making buildings healthier.
- Occupancy and air quality sensors interact to control space utilization and prevent the spread of viruses and bacteria.
- Advanced sensor technologies enable high-precision monitoring of indoor conditions, aiding in automated facility management and maintenance.
- Operational efficiency is enhanced through predictive maintenance, reducing the need for on-site diagnosis and allowing for remote management.
- The presentation showcases a project integrating various technologies to create intelligent, efficient buildings with intuitive dashboards for decision-making, even for non-technical users in a friendly manner.
- The approach involves integrating energy management, facility operations, and maintenance into a unified system, utilizing cloud technology and analytics for improved performance and efficiency.

Link to presentation can be downloaded [HERE](#).



SESSION I: PRESENTATION

'Building Operating Systems' by Mr. Mohammed Sheik Ali, Vice President – Head of Building Products, Siemens Ltd.

- Buildings face challenges like high energy consumption (40%) and significant greenhouse gas emissions (1/3 of total), necessitating a transition to smart buildings for efficiency and sustainability.
- Global trends demand more flexible infrastructures to accommodate changing workspace use, emphasizing the need for buildings that support varied and adaptable usage.
- Two approaches to adopting smart buildings: improving existing building performance (energy efficiency, productivity, asset protection) and incorporating new technologies in construction for sustainability and zero emissions.
- Emphasizing the shift from traditional to smart buildings, which includes full automation, remote access to data for maintenance and diagnostics, and enhanced service delivery.
- Smart buildings utilize AI and advanced analytics for system performance monitoring, predictive maintenance, and operational efficiency, minimizing failures and maintaining business continuity.
- Highlighting the importance of proactive and preventive maintenance supported by data analytics for fault detection, diagnostics, and optimization, to protect people, assets, and business operations.
- Discussing the transition from siloed systems to integrated cloud platforms, allowing for customizable applications that enhance energy management, security, and operational transparency.
- Siemens is committed to sustainable solutions, focusing on products that support energy efficiency and sustainability, and is open to further discussions and questions on smart building technologies and practices.

Link to the presentation can be downloaded [HERE](#).



SESSION I: PANEL DISCUSSION: TECHNOLOGIES FOR SMART BUILDINGS

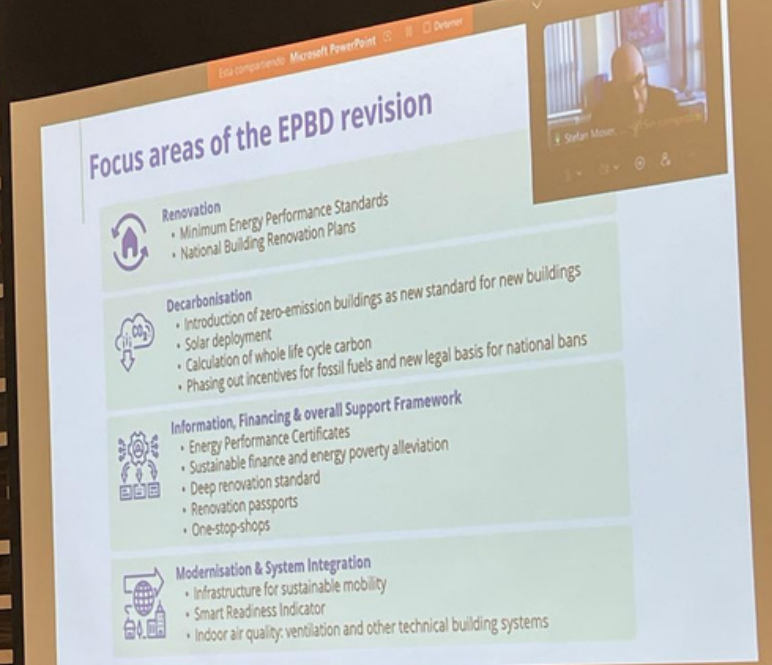
Panelists:

- **Mr. Firas Obeido, CEO at E2E Arabian (SmartAE)**
- **Mr. Gusts Kossovics, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)**
- **Mr. Mohammed Sheik Ali, Vice President – Head of Building Products, Siemens Ltd.**
- **Mr. Mohamed Moselhy, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)**

Moderator: Mr. Antonio Pelaez, Smart Buildings Expert with GFA Consulting Group GmbH

Summary of discussion points:

- Smart buildings and technologies are essential for enhancing efficiency, sustainability, and occupant health, yet face implementation challenges due to regulatory gaps and rapid technological advancements.
- Key focus areas include improving building performance, energy efficiency, protecting assets, and adapting to new technologies for sustainability and zero emissions.
- The transition from traditional to smart buildings requires full automation, remote data access for maintenance, diagnostics, and proactive, preventive approaches to building management.
- Interoperability and standardized communication protocols are crucial for integrating smart buildings into smart city infrastructures, emphasizing the need for collaboration among stakeholders (system integrators, manufacturers, clients).
- Regulatory frameworks and standards for smart buildings are lacking in KSA, hindering decision-making and adoption of smart technologies. Establishing clear guidelines and standards is crucial for promoting smart building adoption.
- Smart buildings contribute to smart city goals by enhancing energy management, sustainability, and improving citizens' quality of life through advanced technologies and data analytics.
- The discussion highlighted the importance of raising awareness about the benefits of smart buildings, addressing regulatory challenges, and fostering collaboration to accelerate the adoption of smart building technologies.



SESSION II: PRESENTATION

'Policy framework for smart buildings in the EU' by Sr. Stefan Moser, Head of Unit Building and Products, Directorate-General for Energy European Commission (Online)

- Europe faces significant challenges with an aging building stock, requiring renovations to improve energy performance and integrate smart technologies.
- The European Green Deal, as a policy framework, targets all sectors, including buildings, for substantial progress in climate response, emphasizing a just and fair transition with support for financing and technical advice.
- Key legislative initiatives such as the Energy Efficiency Directive, Energy Performance of Buildings Directive (EPBD), and Renewable Energy Directive aim to enhance energy savings, enforce minimum performance standards, and increase renewable energy use in buildings.
- The EPBD focuses on doubling annual renovation rates by 2030, promoting deep renovations, and setting a vision for climate-neutral buildings by 2050, with an emphasis on transforming existing buildings and introducing smartness and intelligence.
- The introduction of Zero Emission Buildings as a new standard, mandating new public buildings to be zero-emission by 2028 and all new buildings by 2030, aligns with the concept of nearly zero-energy buildings but advancing towards full decarbonization.
- Solar energy deployment on buildings is encouraged, with policies to make new buildings solar-ready and exploit the potential for solar installations on existing buildings.
- Mobility integration with buildings is highlighted, stressing the need for electric vehicle recharging infrastructure in new and renovated buildings to support sustainable mobility.
- The Smart Readiness Indicator (SRI) is established to assess and rate the smartness of buildings, promoting the use of smart technologies across the EU. The SRI focuses on optimizing energy use, adapting operations to occupant needs, and enhancing the building's interaction with the energy grid.

- An EU-wide test phase for the SRI is underway in 11 countries, with additional support from EU-funded projects to expand testing, improve methodologies, and share best practices.
- The presentation underscores the importance of regulatory frameworks, financial incentives, and technological advancements to achieve energy efficiency, sustainability, and smart integration in the building sector, contributing to broader climate goals.

Link to the presentation can be downloaded [HERE](#).

SESSION II: PRESENTATION

“The Smart Building Potential’ by Mr. Gusts Kossovics, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)



- 75% of EU buildings are inefficient and in need of energy improvements, with an annual waste of approximately 270 billion euros.
 - Investing in building automation and control systems (BACS) costs about 28.7 euros per square meter with a payback period of three years, potentially saving 27-52% in energy costs and CO2 emissions.
 - EU policy measures aim to improve building efficiency by 2030 and 2050, focusing on minimal capabilities for monitoring, control systems, communication within and outside the building, and troubleshooting.
- The new revision of the Energy Performance of Buildings Directive includes monitoring and controlling indoor air quality in large residential and non-residential buildings to enhance cognitive functions and reduce sick days, potentially saving around 800 euros per office employee in downtime and sick days.
 - The Smart Readiness Indicator (SRI) is a Europe-wide scheme that assesses and provides clear information on the smartness of buildings, aiding investment decisions and encouraging future-proofing of buildings.
 - Recommendations for global roll-out include mandating automation and control system requirements in large buildings, implementing the Smart Readiness Indicator, and monitoring and controlling indoor environmental quality to improve productivity and reduce downtime.

Link to the presentation can be downloaded [HERE](#).

SESSION II: PANEL DISCUSSION: POLICIES FOR A STABLE ENVIRONMENT FOR SMART BUILDINGS AND SMART TECHNOLOGIES

Panelists:

- **Sr. Stefan Moser, Head of Unit Building and Products, Directorate-General for Energy European Commission (Online)**
- **Mr. Gusts Kossovics, Managing Director – Head of Policy European Building Automation and Controls Association (eu.bac)**

Moderator: Mr. Douglas Aitkenhead, Team Leader, EU-GCC Dialogue on Economic Diversification Project

Summary of discussion points:

- Smart buildings are crucial for achieving decarbonization goals, with their evolution to meet stringent environmental targets driven by both technological innovation and regulation.
- The integration of smart buildings into the smart grid ecosystem faces challenges and opportunities, including the importance of interoperability between various smart technologies and systems.
- Regulatory frameworks, such as the Energy Performance of Buildings Directive (EPBD) in the EU, are shaping the future of smart buildings by setting performance standards and promoting energy savings and environmental benefits.
- The dialogue between industry representatives and policymakers is essential for developing and implementing effective smart building technologies and policies.
- The Smart Readiness Indicator (SRI) serves as a tool for assessing and promoting the smartness of buildings, offering benefits such as cost savings, improved comfort, and increased asset value.
- There is a recognized need for industry collaboration and partnership with governments to drive the uptake of smart building solutions and technologies.
- The EU is open to sharing experiences and expertise with other regions, including Saudi Arabia, to support the development of smart buildings and address specific challenges, emphasizing the potential for international cooperation.





SESSION III: PRESENTATION

Smart Buildings Potential in KSA' by Mr. Fouad Zayed, MEA Director for Buildings, Digital Energy, Global Operations, Schneider Electric

- Schneider Electric is focused on creating sustainable and efficient building environments in the KSA, emphasizing collaboration over competition in the industry.
- The market for smart buildings in KSA is vast, with potential across various segments, including real estate and infrastructure development.
- Schneider Electric is investing in local resources and expertise in KSA, including opening a new headquarters, to cater to the burgeoning market.
- The presentation highlighted the comprehensive approach needed, from design to operation, to achieve sustainable and smart buildings, emphasizing the role of digitization in all phases.
- 40% of sustainability impacts come from buildings, underscoring the need for smart solutions from the design phase to minimize carbon footprint throughout a building's lifecycle.
- The construction industry is lagging in digitalization, contributing to inefficiency and higher carbon footprints.
- Schneider Electric's approach focuses on sustainability, resilience, efficiency, and people-centric solutions to achieve net-zero buildings.
- Digitization and electrification are key to creating efficient and sustainable buildings, with IoT and cybersecurity considerations for connectivity.
- The company emphasizes the importance of software solutions for integrating and managing building operations, advocating for digitization from the design phase for better efficiency and reduced resource waste.
- Schneider Electric has made significant acquisitions to bolster its digital and sustainable solutions portfolio, positioning itself as a leader in sustainability.
- Schneider Electric online training courses on smart buildings help strengthen the different stakeholders' capacities step by step.
- The presentation stressed the necessity for industry-wide collaboration, technology innovation, and resource allocation to meet KSA's ambitious Vision 2030 and sustainability goals.



SESSION III: PRESENTATION

'Innovative Business Models for Smart Buildings' by Mr. Mohamed Moselhy, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)

- Traditional building automation and controls have evolved from connected buildings to smart, sustainable, and now cognitive buildings, focusing on AI and self-sufficiency, driven by a people-centric approach.
- The shift towards sustainable and cognitive buildings addresses environmental challenges and prioritizes user experiences, leveraging digital technologies for integration and efficiency.
- Integrating disparate building technologies remains a significant challenge due to the lack of a universal framework for compatibility among various systems and protocols.
- Regulatory frameworks, like those in the EU, set foundational elements for sustainability, energy efficiency, indoor environmental quality, and innovation in building designs.
- Emerging technologies, such as IoT, facilitate easier integration across different building systems, enabling a unified platform for various data sources.
- Innovative business models are emerging to support investments in smart building technologies, moving from capex-based models to as-a-service models, outcome-based guarantees, and pay-as-you-use schemes.
- These models allow for financial flexibility and alignment of financial commitments with the actual outcomes derived from smart building solutions.
- The concept of a Master System Integrator is gaining traction in Saudi Arabia, offering a way to achieve specific targets and outcomes while maintaining the freedom to design, choose, and test the right technologies.
- Retrofitting and upgrading existing buildings is crucial for achieving national sustainability and energy efficiency goals, supporting the broader vision for smart, sustainable urban development in Saudi Arabia.

Link to the presentation can be downloaded [HERE](#).

SESSION III: PANEL DISCUSSION: KSA SMART BUILDINGS MARKET

Panelists:

- Mr. Fouad Zayed, MEA Director for Buildings, Digital Energy, Global Operations, Schneider Electric
- Mr. Mohammed Sheik Ali, Vice President – Head of Building Products, Siemens Ltd.
- Mr. Mohamed Moselhy, Regional Vertical Leader, Smart Cities & Communities, Honeywell Building Automation (BA)

Moderator: Mr. Antonio Pelaez, Smart Buildings Expert with GFA Consulting Group GmbH



- The KSA smart buildings market emphasizes the importance of energy efficiency and enhancing the quality of life for citizens through smart building technologies.
- Training and awareness are crucial across all stakeholders, including end-users, suppliers, system integrators, and operators, to ensure competence in managing complex smart building systems.
- Smart buildings in KSA are evolving beyond traditional automation to integrate cognitive, AI-enabled technologies, focusing on a people-centric approach.
- Challenges include integrating disparate technologies and the need for a framework that supports seamless integration among various systems and protocols.
- Regulatory frameworks and associations are working towards setting standards for sustainability, energy efficiency, and innovation in building designs.
- Emerging business models, including public-private partnerships and service-based models, are being explored to support investments in smart building technologies.
- Vision 2030 in KSA acts as a catalyst for the smart buildings market, encouraging government and private sector collaboration to adopt innovative business models.
- The success of smart building initiatives requires flexibility, innovation, and incubation, supported by clear visions and contributions from both local and foreign investments.
- Vendors and technology providers must ensure their solutions are adaptable, sustainable, and support the integration necessary for the development of smart, sustainable cities in KSA.

SESSION IV: OPEN FORUM

The main discussion points addressed in the open forum are highlighted below:

- The main concern for the mass adoption of smart buildings is the cost factor, including both upfront investment and long-term savings, particularly regarding energy efficiency.
- Retrofitting existing buildings with smart technology presents challenges but is necessary for achieving wider market penetration and sustainability goals.
- Indoor air quality (IAQ) is an important aspect of smart buildings, impacting occupant health and productivity.
- The integration of technologies from different vendors in retrofitting projects requires open protocols and standards to ensure interoperability and cost-effectiveness.
- Innovative business models, like performance-based contracts and as-a-service offerings, can help make smart buildings more affordable and attractive to a wider range of customers.
- Public-private partnerships (PPPs) and service-based models are suggested as viable business approaches to support the implementation of smart building projects in line with Saudi Arabia's Vision 2030.
- Vision 2030 in Saudi Arabia acts as a significant catalyst for the smart buildings market, encouraging collaboration between the government and private sector to meet ambitious sustainability and efficiency goals.
- There is a need for comprehensive training programs for all stakeholders involved in the smart buildings market to ensure they are equipped with the necessary knowledge and skills.
- Establishing consensus on standards and regulatory frameworks is crucial for the development of the smart buildings market, with a call for more collaborative efforts between government bodies, industry stakeholders, and international partners.
- Innovation should lead the development of standards, with regulators monitoring market developments closely to intervene when necessary to prevent market failures and ensure interoperability and fair competition.





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The EU-GCC Dialogue on Economic Diversification is a project funded by the [European Commission Service for Foreign Policy Instruments](#) under the [Partnership Instrument](#).

The project contributes to stronger EU-GCC relations by supporting the GCC countries in the ongoing process of economic diversification away from hydrocarbon-dependent sectors, including by funding regular EU-GCC Business Fora.

The purpose of this project is to promote climate-friendly trade, investment and economic affairs-related policy analysis, dialogue, and cooperation between stakeholders from the EU and GCC at both regional and country levels in the context of the GCC economic diversification process.



EU-GCC Dialogue on Economic Diversification

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to learn more about the project