Kotozna, Inc.
## Demonstration project for middleware between hotel business applications and Property Management Systems (PMS) for the travel industry in Indonesia

Objective of the project

Kotozna aimed to create middleware to bridge hotel business applications and hotel management systems (PMS) across ASEAN countries, starting with Indonesia.

This project was intended to address various issues in the hospitality industry after COVID-19, such as persistent labor shortage, language barriers, and productivity improvement, by creating an efficient and unified Application Programming Interface (API) in the fragmented PMS market, and to increase added value for accommodation facilities.
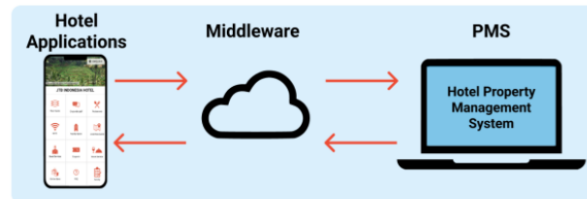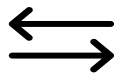

Cooperation with local companies/governments

Artotel Group

Hospitality business in Indonesia
Providing a venue for data linkage PoC

JTB Pte Ltd / JTB Asia Pacific Headquarters

Introducing potential hotels in ASEAN region for this PoC project

Targeted economic/social issues

The hospitality industry is increasingly reliant on digital solutions to manage operations and improve customer experience. Globally, there is a trend towards integrated systems where various solutions are individually connected to a core system like PMS, but digital transformation in the industry is only progressing slowly due to numerous PMSs with different specifications.

In 2019, before COVID-19, the travel and tourism sector accounted for approximately 6% of Indonesia's gross domestic product (GDP). However, in Indonesia, which comprises more than 17,000 islands, hospitality standards vary from world-class resorts to budget accommodations in remote areas, and the operational challenges of this major industry, which welcomes more than 16 million tourists annually, are becoming more serious.

In particular, (1) language barriers, (2) lack of a unified API, (3) low operational productivity due to diversified hotel business applications and lack of PMS coordination, and (4) labor shortage are challenges specific to the industry in Indonesia.

As the use and expansion of digitalization continues to advance for the recovery and restoration of the tourism industry in Indonesia and ASEAN countries that fell due to COVID-19, the hospitality industry faces an urgent and significant need to improve productivity through middleware solutions.

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Demonstration period

September 2022 – January 2024

Details of demonstration

In Indonesia, the demonstration started at Artotel Group with PMS: VHP.

 (1) Middleware infrastructure implementation (9/2022–12/2023)
   Developed and tested the PMS connector and PMS application and built 4 functions including "Place order" and "Guest Checkout (including payment)."

(2) UI/UX middle frontend implementation (12/2022–2/2023)
   The initial development was on time, and we continued to improve the system based on feedback even after starting the operation.

(3) Physical access/operation implementation onsite in hotels (3–11/2023)
   We prepared the environment for the POC, including the guest room environment setup, technical setup, and staff training. Besides installing QR codes in guest rooms, even after starting the operation, we provided support such as data analysis that would lead to improved functionality of API: Kotozna In-room (KIR).

In-room main menu   Restaurants   Multilingual room service ordering

Project outcome / Future plans

In this project, the middleware was successfully implemented in PMS, enabling communication between PMS and KIR. This allowed us to demonstrate the effectiveness of an integrated system that combines the traditional PMS with the latest digital solutions.

In addition to the technical capabilities to handle a variety of languages and user interactions, we also demonstrated the scalability of the system to accommodate different sizes, operational needs, and environments of different lodging facilities.

Furthermore, we were able to go beyond mere technical integration and implement KIR which has an interface that focuses on improving customer experience and is conscious of UI/UX design elements.

Another valuable outcome of the PoC was detailed feedback from our customers.

By deepening our understanding of local needs and markets, this experience will lead to developing and delivering region-specific products in the future.

Kotozna will build strong relationships with potential customers and partners for new PoC opportunities.

Based on the experience gained from this project, customer feedback and market research, we aim to expand our market share in the ASEAN and Japan by enhancing our features and developing new ones.