i Smart Technologies Co., Ltd.

Project of building a productivity improvement service business with IoT tools and coaching Kaizen activity in Thailand.

Object of the project

Services for the self-developed IoT system (iXacs) has been offered in Thailand since September 2021. The sales operations and support services for iXacs was entrusted to Siam Asahi Manufacturing Co., Ltd. (SAM), which has a track record of improvement using iXacs. We believe that the same results can be achieved in both Japan and Thailand for the same industry. Participant will receive training: productivity improvement and digital transformation (DX), install iXacs on production line, identify problems while collecting data, and improve productivity. Concurrently, service development (KaaS) leads to human resource development. It is aimed to expand the business widely in Thailand through this project.

Cooperation with local companies/governments

Our role is to monitor the project progress and provide training for improvement know-how using iXacs data and its evaluation. SAM provides iXacs installation/setting support, data analysis, activity follow-up for each company, and factory tours. Mobile Innovation Co., Ltd. conducts sales activities by utilizing the network of iXacs parts procurement and IT digital tool sales. These companies will develop toward success through iXacs. On May 11, 2018, we signed an understanding memorandum with the Ministry of Industry of the Kingdom of Thailand. We are considering proposing DX promotion projects to Thai government and organizations providing support abroad as Thailand 4.0.

Targeted economic/social issues

Thailand is positioned as a advanced country within the ASEAN countries, but compared to neighboring countries, it faces problems such as soaring labor costs and a shortage of workers due to the declining birthrate and aging population. It's essential to improve efficiency through utilization and develop "DX human resources," especially in the manufacturing industry. First step is to visualize waste such as inefficient work/equipment/human movement, as well as equipment stoppages. The second step is to visualize data analysis. But the data must be credible. Therefore, it's effective to automatically acquire reliable data using IoT (iXacs). However, just seeing the problem does not increase productivity. By improving equipment stoppage and human movement for enhancing productivity, as well as developing DX human resources, we can transform the corporate culture and lead to the solution of social problems. Currently, it is difficult for the needs of Thai companies, where DX has not yet penetrated, to take root unless they are provided with a thorough service from improvement support to human resource development, not to mention the visualization of problems through IoT.

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Details of demonstration

One of the outcomes that iSTC is seeking in this project is to verify whether Thai companies can achieve the same results as in Japan through KaaS, and whether KaaS itself needs to be considered as a Thai-specific program. This project content were; Utilization of data from iXacs obtained remotely by iSTC, Japan, and group training to achieve results through improvement. In Thailand, SAM took the lead in installing, setup, and iXacs using support for 10 months for 8 companies with the following contents.

(1) Web kick off on business description/IoT utilization/DX: 60 minutes and Q&A: 15 minutes
(2) On-site work: Confirmation of iXacs installation data for 3 lines
(3) Explanation of iXacs functions/acquired data/initial settings (WEB)
(4) SAM factory tour: Introduction of improvement cases (participation by applicant only)
(5) WEB Group training (3 times): Utilization of Yokoten board / Waste / Simulation of data utilization improvement/ Model change / Standardized work, Total: 360 minutes.
(6) Company visit: To understand the current status of implementation
(7) Web follow meeting 1-2 times during each group training.
(8) Results presentation (1st period: 3 companies, 2nd period: 5 companies, by each company)
120 minutes (including Q&A)

Project outcome / Future plans

Two companies seized the opportunity to improve productivity/DX, two companies were expected to implement DX, and remaining 4 companies need further support in the future. The reasons for differences among companies are as follows.

・Management and supervisors do not participate in activities and debriefing sessions.
・In securing and setting members to promote activities, it consists only of person in charge and workers of the target line/process, and not from the perspective of achieving goals or developing human resources.
・No realwork-realsite (genchi genbutsu) activity, such as using Yokoten board and considering improvement plans by sharing problems.
・Objectives of activities are unclear, and targets are not set based on data.

Participant companies : 8 companies / Evaluation point / Business Type	A company (Parts Mfg) SMEs	B company (Parts Mfg) SMEs	C company (Parts Mfg) SMEs	D company (supplies Mfg) Big company	E company (Metal Mfg) Big company	F company (Parts Mfg) Big company	G company (Metal Mfg) Big company	H company (Parts Mfg) Big company
Evaluation of company's task achievement by company	○	○	○	○	○	○	○	○
Are you able to utilize IoT according to your purpose?	○	△	×	○	×	△	×	×
Are you able to apply what you learned in the training to your activities?	○	△	△	○	×	△	△	×
After the project, can you independently conduct and develop tour own activities?	○	△	△	○	×	△	△	×
Transformation of corporate culture results of structural improvement through activities.	○	○	×	○	×	△	×	×
Evaluation of service actual proof	successful ◎	certain effect ○	contracting △	successful ◎	Ineffective ×	certain effect ○	contracting △	Ineffective ×

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It's clear that such problems are not only because they are SMEs, but that even major companies cannot promote DX if they make mistakes in their operations.
In November 2022, Mr. Nishimura, Minister of Economy, Trade, and Industry, and Mr. Suriya exchanged documents on the "Cooperation Framework for Human Resource Development for the Realization of Industry 4.0," which triggered the realization of DX as well as carbon neutrality, which is an issue around the world, and iSTC, SAM, and MI will provide support for this in Thailand.