JFE Steel's DX Promotion Vision

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Abstract:

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1. I

Rapid and eeping change are nder a in the

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three pillar to pport the promotion of DX, and aim to ma imi e al e thro gh the nerg among them. The e three pillar are introd ced belo .

2.1 E ,ı. IT S ı ,ı R·ı -

Until no , JFE Steel ha operated it core tem in a legac en ironment, hich i characteri ed b high reliabilit and other feat re , con idering the erio effect if an abnormalit occ r . On the other hand, beca e legac en ironment are b ilt ba ed on the tandard of each man fact rer, there ha e been challenge in tili ing data a et , ch a the lack of tem config ration option and f nctional calabilit , hich make it diffic lt to tili e ad anced digital technologie .

Therefore, the fir t pillar pporting the promotion of DX i IT tr ct ral reform , hich mean b ilding an open platform to reali e a fle ible, change-tolerant IT tr ct re, and integrating and migrating aging legac tem to that platform. F ,ğ 2 ho an image of thi effort. A ho n in the center of Fig. 2, there are three a to mo e to an open platform, and the tran ition i made b the e re pecti e method , depending on the characteri tic of the area:

(1) ERP (Enterpri e Re o rce Planning), hich i applied to area that can be tandardi ed, ch a management-related tem .
(2) Re tr ct ring of tem in trategic area after re ie ing and redefining b ine proce e .
(3) Migration of area that ha e alread been con-

2.1.1 B [illegible] DX

Ba ed on it clo d fir t polic , JFE Steel con- tr cted a ne platform, the J-OS clo d, hich i a dedicated internal pri ate clo d and ha been in operation ince April 2016. The J-OS clo d pro ide an en i- ronment for the operation of internal core tem and data torage and i a ailable from all JFE Steel ite . A h brid clo d en ironment a al o b ilt, making it po ible to tili e ad anced digital technologie on the p blic clo d hile en ring afe ec rit b connecting thi en ironment to the p blic clo d ia an API (Application Programming Interface). The core tem ill be grad all tran ferred to thi en ironment, and an open en ironment ill be implemented in the entire compan d ring the period of the 8th Mid-Term Plan. Mo ing to a highl calable open platform ill make it po ible to re pond more q ickl and fle ibl to c

2.1.3 U

The core tem of JFE Steel’ teel ork ill al o

that cannot be een in realit and predict the f t re tate. Stead operation can be reali ed b feeding back the re lt of health monitoring and anomal predic-tion to operational action in the real proce , and pro-d cti it impro ement can be e pected b re ealing bottleneck in proce e . In addition, proce inno a-tion thro gh irt al e periment and technolog c-ce ion and ork t le reform thro gh mechani ation of kno ledge and e perti e can al o be e pected.

JFE Steel had introd ced CPS at all it bla t f r-nace in Japan b FY 2020, and introd ced technolog that can predict the heat condition in the bla t f rnace p to 8 to 12 ho r ahead, hich i important for table operation, a ell a predicti e detection of abnormali-tie that ma ca e erio tro ble in the f rnace, hich had been diffic lt in the pa t. In the 7th Mid-Term Plan, introd ction of CPS ill be completed in all man fact ring proce e in addition to the blce Lanm10.3 (hEMC(f)-96.9 (CP)0.8 (S)-0.7 (ill)-0.8 c)0.8 (o-USid