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Automation Techniques for Fully Automated Coil Transport

N n ~ k (Shigeki Yoshinaga) wO Q x (Yoshinori Anabuki)

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Synopsis :

Kawasaki Steel started the construction of an automatic steel strip coil transportation system in the 1980's. Presently, most of the in-plant transportation of hot-rolled or cold-rolled coils are automated. For establishing the automatic transportation, there were developed various technologies, such as, the optimum handling technology using artificial intelligence, the technology of preventing additional piling of coils on existing coils by using an ultrasonic wave and a laser beam. Through the improvements of these technologies, a full-automated transportation system has been achieved and the system has contributed substantially toward product quality assurance and cost reduction. This paper gives the changes in the automation technology of coil transportation and transition in the automation of No. 3 finishing hot rolling mill, now having the latest automatic system, in Chiba Works.

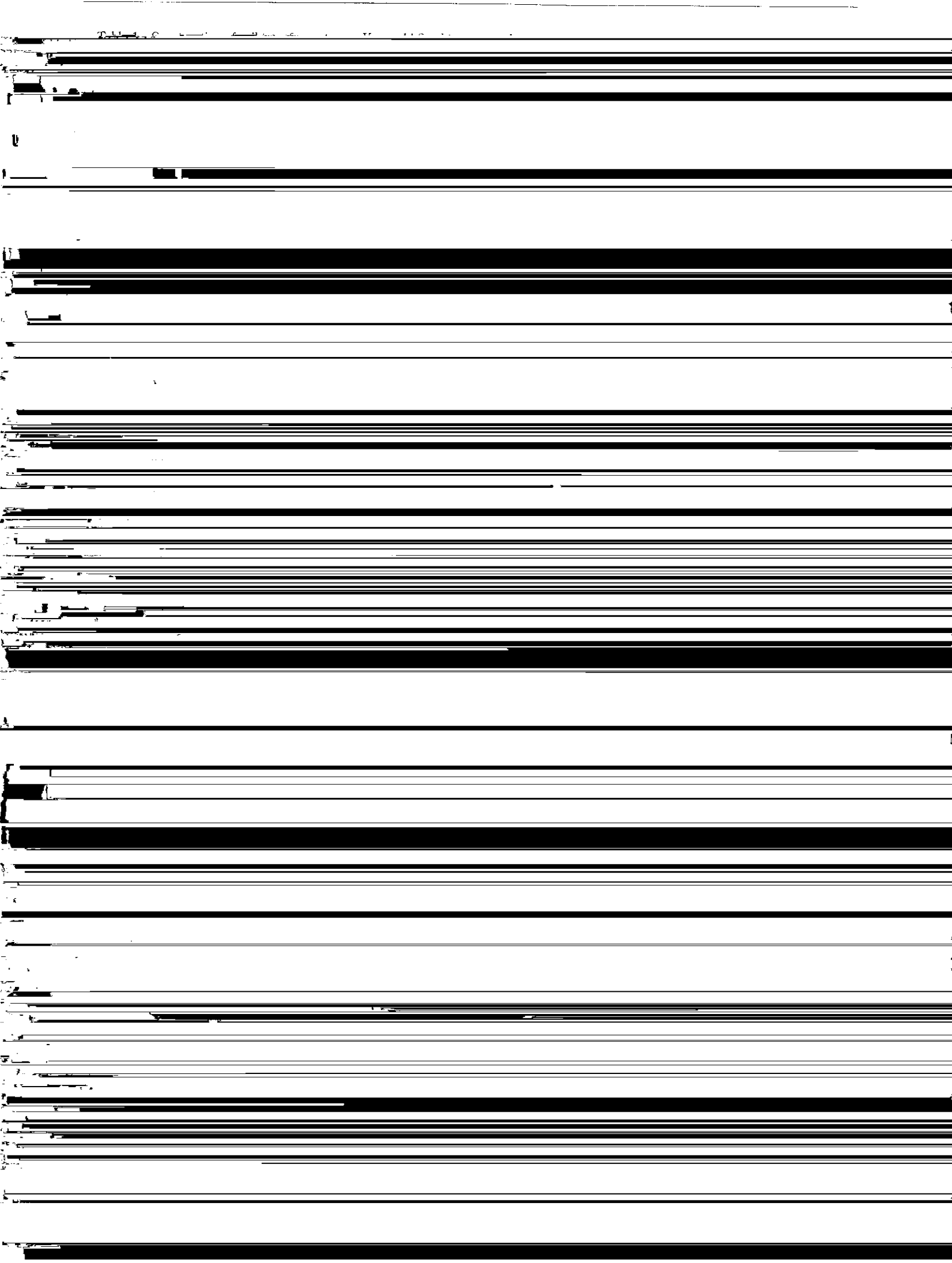
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要旨

川崎製鉄では、1980年代よりコイル自動搬送設備の建設を始め、現在では、熱間圧延コイル、冷間圧延コイルの工場内搬送の大部分を自動化している。自動化にあたり、人工知能を用いた最適搬送技術、超音波やレーザを用いたコイル2重置き防止技術などの技術開発を行い、それらの技術に改良を加えて完全自動搬送システムを実現し、品質面、コスト削減などに大きく寄与している。本報では、



4 代表的なコイル自動搬送設備

4.1 水島製鉄所電磁鋼板精整ラインの自動化

(3) 検査・紙巻きの自動化

細幅コイル出荷前に、端面検査、紙巻き、バーコード貼付の一連の作業を全自動で行っている。

(4) 全自動倉庫



