

巻頭言

“PREFACE”

所 感

What I Have in Mind



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リーマンショックから9年となる2017年は日米欧の先進諸国や中国を初めとする新興国ともに政治的、地政学的な様々なリスクを抱えつつも経済は安定軌道をたどり堅調に推移した。国内においても世界同時好況とも言われる状況に引っ張られて企業業績は好調、株価も23,000円に達する勢いである。翻って我々耐火物業界はどうであろうか。最大のお客様である鉄鋼業界は一時の中国の過剰生産問題や鉄鉱石、原料炭などの原料価格高騰問題が後退し業績は急回復、粗鋼生産も拡大基調が見込まれている。非鉄やセメントなども堅調であり我々にとって少なくとも量的な面ではマイナス要素は見当たらない。

しかしながら足元では中国の環境規制に端を

In 2017, when 9 years has passed since the Lehman Shock, the world economy has been robust on a stable growth track both in the developed countries such as Japan, the United States and Europe, and in the emerging countries including China, with various political and geopolitical risks. In Japan, corporate performance has been strong driven by the so-called global economic boom, and the Nikkei Stock Average has reached 23,000 yen. In the meantime, how has been our refractories industry? Business performance of our biggest customer, the steel industry, has recovered rapidly, and steel production is expected to expand, as the problems such as overproduction in China and price increase of raw materials including iron ore and coking coal have diminished. The non-ferrous and cement industries have been also growing steadily. We cannot see negative factors at least in terms of demand for refractories.

However, most recently, corporate earning environment has rapidly become severe due to

発する原料の供給不安と価格高騰により、急激に収益環境は厳しさを増している。現在の原料価格は我々にとってとても再生産可能な水準とは言えず、このことはお客様にも丁寧にご説明をしてご理解を得る努力が必要であると痛感している。

考えてみればこれまでの中国原料が異常に安すぎたと言えなくもない。マグネシアにしても黒鉛にしても中国原料があまりにも安価で大量に供給されるので、その他地域では資源はあってもコストで太刀打ちできないため開発されてこなかったという側面がある。今後は以前のような価格水準には戻らず、供給ソースも中国以外へ多様化していくものと考えられる。

一方、耐火物の技術開発面の今後の展開はどうか。開発の視点を材料そのものとそのアプリケーション技術の開発と、設備やプロセスなどの生産技術の開発とに分けると、両者ともに大切なのはもちろんであるが、近年どうも前者の材料開発面を偏重してきたきらいがあると感じている。

当社は1995年に業界に先駆けて多関節ロボットや自動搬送車を駆使し、高度に生産を自動化した工場を立ち上げた。しかしながら、それからもう四半世紀が経過しようとしており、全体としてみれば耐火物産業は当社も含めて未だ粉塵や重筋作業を伴う労働集約型の産業と言わざるを得ない。これから生産年齢人口が確実に減少していく我国で、将来の生産現場を担ってくれる人材が確保できるのか甚だ心もとない。そういう視点からも、材料開発に加えて生産プロ

supply concerns and rising prices of raw materials for refractories, which has started because of tightened environmental regulations in China. The current raw material prices have reached the level at which we cannot continue to manufacture products. It has made me strongly feel that we need to explain about these situations to the customers carefully and obtain their understanding of the price increase of our products.

Come to think of it, it could be said that the prices of Chinese raw materials have been excessively cheap. Since Chinese raw materials such as magnesite and graphite have been supplied very inexpensively in large quantities, no other areas have been developed even with resources because they cannot be cost-competitive. I believe that the raw material prices will not return to the previous level and supply sources will be diversified beyond China.

On the other hand, I would like to think about the future of technology development of refractories. If we divide the viewpoint of development into the material technology including application, and the production technology such as equipment and processes, both of them are certainly important, but I feel that there has been a tendency to focus on the former disproportionately.

In 1995, our company launched a highly automated factory, adopting multi-joint robots and automated guided vehicles ahead of any other companies in the refractories industry. A quarter of a century is going to pass since then. However, taken as a whole, we have to say the refractories industry including our company is still a labor-intensive industry with dusty environment and heavy muscle work. In Japan, where the working population is definitely going to decrease from now on, I feel very uneasy about whether we can maintain the human resources who will be responsible for the production site in the future. From that point of view, in addition to the material development, the development of production technologies which will simplify the production

セスの簡素化や設備と工程の自動化などを実現する生産技術の開発は今後ますます重要になると思われる。世の中はAIやIOT技術が製造業から金融、サービス業まで様々な産業分野で応用され実用化される時代である。我々耐火物産業も決してこの埒外であるはずはない。これらの新技術も活用した生産プロセスの革新を目指して、品川技報にも関連するテーマの報文が少しでも多く掲載されることを期待したい。

processes and automate the equipment and the operation would be increasingly important. In the world, AI and IoT technology are applied and practically used in various industrial fields ranging from manufacturing industries to finance and service industries. The refractories industry should not be an exception. I hope that the reports on these new technologies will be published as much as possible with an aim to innovate the production processes of refractories in Shinagawa Technical Report.