Innovations in Machinery
THE CEO HANDBOOK

What is New.....What is Next

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WORLD OF GARMENT - TEXTILE - FASHION

Forword by Dr. Christian Schindler, ITMF

FOREWORD

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One important prerequisite for any long-term success in the textile machinery industry is to be innovative and hence to offer customers in the textile industry ever better solutions which allow them to remain competitive. Innovations can take different forms. Machines become faster, more energy- and/or water-efficient and therefore more productive; or machines offer higher levels of automation which reduces labor costs and/or improve process efficiency. Furthermore, developments of new technologies which allow to improve the quality of products and/or services are very important forms of innovations too.

Often innovations are based on new inventions in materials and processes which allow the developments of new products and hence require new types of machines. Sometimes these innovations are incremental. Such incremental innovations are very important for the continuous improvement of a company's production process and product portfolio and are normally relatively easy to understand and to implement. The development and implementation of incremental innovations are part of regular and daily management processes and decisions. The identification and assessment of new materials, machines and processes are constant tasks of the management.

Innovations in traditional textile production – apparel and home textiles – are very important to remain competitive in an industry that is working on relative small margins. In the segment of technical textiles, innovations very often require interdisciplinary expertise. Consequently, also textile machine manufacturers need to develop additional expertise and in-depth understanding of their customers' products if they are to remain relevant suppliers.

Beyond the necessity and challenges related with incremental innovations, there are also fundamental innovations which have an even stronger impact on the respective industry. This is the case, because fundamental innovations are very often disruptive. In the past such fundamental innovations were the steam-engine, the gasoline engine or more recently the computer. The impact of such fundamental innovations did not necessarily have an immediate impact due to the fact that it takes a long transitional period for such innovations to replace well established and existing products and processes. Such fundamental and disruptive innovations are not restricted to one industry but influence many industries directly or indirectly, some of them more, some less.

The inventions of the internet and the mobile phone which only started spreading in the 1990s, formed the basis of many other fundamental innovations in the last 25 years. The possibility to make information available to everyone and to make communication easy, fast and inexpensive changed the way people live and work today. It also led to the possibility to collect data electronically in large numbers (Big Data). The availability of ever more inexpensive and small computers together with sensors led to the advent of the interconnectivity of machines (Internet of Things).

Today many people are of the opinion that we have entered already the 4th Industrial Revolution often referred to as 'Industry 4.0'. According to Wikipedia "The fourth industrial revolution, is the current trend of automation and data exchange in manufacturing technologies. It includes cyber-physical systems, the Internet of things and cloud computing.

The basic principle of Industry 4.0 is that by connecting machines, work pieces and systems, businesses are creating intelligent networks along the entire value chain that can control each other autonomously."

The potential related to the 4th industrial revolution seems to be enormous but also difficult to grasp as they require a good in depth-understanding of these new technologies and a long-term vision on how best to benefit from these new technological possibilities. Exhibitions of new textile machines are constantly showcasing the latest technologies and provide indications where the industry is heading to. The really difficult challenge for both producers and users of textile machines is to identify the future potentials and to develop strategies to make best use of technological innovations. At such a juncture, we appreciate Fibre2Fashion's initiative to deliberate on the future challenges and opportunities within the textile machinery industry and help provide companies a better insight.

PREFACE

In today's world, textile manufacturers need to keep upgrading their machineries to stay competitive. In fact, it is the latest machinery that drives the growth of the textile and garment industry by providing efficiency and optimisation in production.

To meet customers' demands and needs, global leaders in textile machineries strive hard to come up with innovative and more efficient textile machines. The newer machines are intelligently designed to give maximum quality and optimum economic efficiency with outstanding features. The trends in shipments of machineries give an indication of which machineries are in demand.

Shipments of flat-knitting machines rose by 52 per cent, while deliveries of shuttle-less looms increased by 14 per cent year-on-year in 2015, according to the 38th annual International Textile Machinery Shipment Statistics (ITMSS) released by the International Textile Manufacturers Federation (ITMF).

On the other hand, shipments in some textile machinery segments experienced declines in 2015. Deliveries of new short-staple spindles fell by nearly 8 per cent from 2014 to 2015. Shipped long-staple spindles and open-end rotors decreased by 61 per cent and 6 per cent, respectively. The number of shipped draw texturing spindles fell by 26 per cent and shipments for new circular knitting machines by 6 per cent year-on-year.

However, 2015 was a very good year for the segment of electronic flat knitting machines as global shipments grew by 52 per cent to 70,100 machines, the highest level since 2011. Not surprisingly, Asia received the highest share of shipments (93 per cent). China remained the world's largest investor for flat knitting machines in 2015. Thereby, Chinese investments increased from 19,000 units to 35,500 units.

But, due to rising labour and production costs, textile and garment manufacturing is shifting, to a certain extent, from China. As a result, new plants are being set up in other countries, especially in Asia and Africa. This is where the new machineries would be in demand. 'Innovations in Machinery — The CEO Handbook' tries to explain the advantages of various machines that will help technocrats in choosing the right machine.

This volume is a collection of top most companies that inform readers about the latest innovations in textile machinery. It presents some of the leading machinery entrepreneurs from different textile verticals who have contributed to the textile industry with their innovations.

New technologies and techniques in textile production are sure to draw the attention of top textile technocrats. Going beyond, this volume attempts to give a glimpse of the future of textile machinery and production.

This handbook will reach the top technocrats in the textile and apparel organisations throughout the world. It will serve as an extensive source of information regarding upcoming technologies and innovations in the global textile machinery industry.