Committee of Management

Proceedings

Bregenz, Austria
September 9, 2013
Committee of Management members from the following countries attended:

Austria          Indonesia
Brazil           Italy
China            Kenya
Chinese Taipei   Korea Rep.
France           South Africa
Germany          Spain
Hong Kong, China Switzerland
India            Turkey

ITMF Officials:  The Director General

In the Chair:    Josué Gomes da Silva (Brazil)
                 President of ITMF
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Attachments

Financial Report (document no. 1)

HTP Meeting (document no. 2a and document no. 2b)

F&A Meeting (document no. 3a, document no. 3b and document no. 3c)

Draft of a Code of Conduct (document no. 4)
Opening Remarks by the President

The President of ITMF, Mr. Josué Gomes (Brazil) welcomed the participants of the meeting and thanked everybody for having attended the Federation’s Annual Conference 2013 in Bregenz/Austria. He thanked especially the Austrian Textile Industry Association (VTI) and the Lenzing AG for having co-hosted successfully the conference in Vorarlberg, a wonderful region with a very long and strong tradition.

Proceedings of the Last Meeting

The Proceedings of the last meeting of the Committee of Management of ITMF, held in Hanoi, on November 6, 2012, were duly circulated on January 17, 2013 and were approved by way of correspondence.

Matters Arising of the Previous Meetings

There were no matters arising from the minutes other than those included in the agenda.

Appointment of Auditors, Solicitors and Bankers

The following appointments were confirmed:

Auditors: Universe (AG für Unternehmensberatung und Revision), Zürich
Solicitors: Dres. Pestalozzi Lachenal & Patry, Zürich
Bankers: Credit Suisse, Zürich

Financial Report by the Honorary Treasurer

The following report on the financial position of the Federation at the end of 2012 (see document no. 1) was presented by Mr. Peter Gnägi (Switzerland), Honorary Treasurer of the Federation:

The Balance Sheet and the Income Statement as authorized by Universe, Zürich, were circulated to the Members of the Committee on March 18, 2013 and approved by post.
Balance Sheet
At the end of 2012, the Federation’s Net assets stood at CHF 619,182, +4.2% compared with 2011. The main reason was a higher market valuation of the marketable securities. The balance sheet in total remains very sound.

Income Statement
The Total income rose by 3.1% to CHF 542,810. The main reasons were higher subscriptions fee from members and higher income from investments and interests.

Payment defaults on outstanding invoices rose to CHF 70,383 (2011: 24,490). This was mainly the result of outstanding fees from the member association and the associate members in Egypt (CHF 34,000) in 2011 and 2012.

The Total expenditures dropped by 8.6% to 574,372 mainly by reducing the general and administrative expenses by 8.4% and by turning a conference loss of CHF 41,168 in 2011 into a conference gain of CHF 55,413 in 2012.

Thus, the Federation’s Total gain increased to 23,851 from -142,897 in 2011.

It is proposed that for 2014 the basis of calculation of Member Associations’ subscriptions remains unchanged:

- The minimum levy shall therefore remain CHF 4,000.
- The maximum levy shall therefore remain CHF 57,000.
- Subscription which fall between the upper and lower limits shall continue to be calculated according to the subscription formula based on an unaltered unit rate of CH 0.065064.
- No Member Association shall pay a subscription representing less than 60% of total national yarn production by the spinners, and consumption by the weavers, in the cotton-system sector.

It is also proposed that Associate Members’ levies shall for 2014 be as follows:

Textile Associations
CHF 15,000  Taiwan Textile Federation

Cotton Associations
CHF 7,000 each  American Cotton Shippers Association
                Cotton Incorporated
                International Cotton Association
                National Cotton Council of America
                Texproci

CHF 5,000 each  Australian Cotton Shippers Association
                Bremen Cotton Exchange
                Cotton Egypt Association
                Supima
Textile Machinery Associations

CHF 15,000  German Machinery Manufacturers Association (VDMA)
CHF 13,000  Italian Textile Machinery Association (ACIMIT)
CHF 12,000  Swiss Machinery Manufacturers Association (Swissmem)

Corporate Members

Corporate Members shall pay an annual levy on the basis of turnover, the minimum amounting to CHF 3,000 for companies with a turnover not exceeding USD 50 million. For a turnover between USD 50 and 200 million, the annual levy will be CHF 5,000 and for a turnover in excess of USD 200 million it will be CHF 7,000 (maximum).

The report by the Honorary Treasurer was unanimously approved by the Committee.

Portfolio – Budget

Mr. Josué Gomes, ITMF President, informed the meeting about the Board’s decision to take away the management of its investment portfolio from Credit Suisse and to give it to an independent asset management company (Jürg Maurer Asset Management AG (JMA AG).

The meeting discussed the current financial situation of the Secretariat. In this context the Director General gave a short overview of the various efforts during the past few years that have been undertaken to reduce expenses and to increase income. As far as expenses are concerned significant reductions were achieved by moving the office and by reducing staff.

As far as income is concerned the Federation was able to stop and reverse the trend of decreasing income from membership fees. One important measure was the change of the fee structure for corporate members. By lowering these fees the Federation was able to attract a significant number of new corporate members.

Mr. Gomes thanked the Past Presidents and their respective Boards members as well as the Secretariat for having taken the above-mentioned measures which were crucial in achieving a balance between expenses and income. In this context the question was raised how much further expenses can be cut before reducing/lowering the capability of the Secretariat to fulfill its duties. The meeting shared the view that as far as the staff of the Secretariat is concerned no further reductions are feasible. Currently the Secretariat employs 4 persons or 2.8 full-time equivalents.

Mr. Gomes stated that a certain size of the Secretariat is required in order to fulfill its duties. Furthermore, he pointed out the future importance of new social media as instruments that can be used for making ITMF more visible and thus also attracting additional members.
Report by the Spinners Committee

Opening Remarks by the Chairman
The Chairman of the Committee, Mr. Andrew Macdonald (Brazil), opened the meeting with a few introductory remarks, and thanked the members for giving their time for the Committee.

He welcomed the two Honorary Life Members as well as the guests (especially from CNTAC) and received apologies.

The Committee was updated on Mr. Werner Bieri’s state of health. At the time of writing these minutes in November 2013 we have learned with much regret the passing of our colleague and wonderful friend.

Spinners’ Committee Country Visit to India in 2013
Mr. B. K. Patodia informed the Committee about the state of the preparations for the scheduled visit of the Committee to India (November 10-17, 2013). The schedule is that the Committee will visit cotton growing and ginning regions in the states of Madhya Pradesh, Rajasthan, Gujarat and Maharashtra. In addition, various meetings will be held with cotton and textile organizations, notably the Cotton Corporation of India (CCI), Confederation of Indian Textile Industry (CITI), Cotton Association of India (CAI), and the Central Institute for Research on Cotton Technology (CIRCOT).

Fibres Prices
The meeting discussed the current situation and the outlook of cotton prices with a special focus on China’s cotton policy and its possible changes and implications for international cotton prices.

Mr. John Cheh pointed out that high cotton prices in China are having an extremely negative impact on cotton spinners in China. The Chinese cotton policy of high cotton prices will lead to the situation that 90% of the next crop (2013/2014) will end up in the Chinese national reserves adding to an already high inventory. High Chinese cotton prices and import restrictions for cotton in China are creating a lot of uncertainty. The main question really is when and how the Chinese government will release its huge stock pile of cotton?

Mr. Wang stated that the Chinese government was making use of planning instruments. He informed the meeting that CNTAC is working relentlessly to explain to the Chinese government how badly the current cotton policy is hurting cotton spinners in China and to convince it to make use of market economy instruments. He pointed out that the current Chinese cotton policy led to a surge of cotton yarn imports thus offering other cotton spinning countries like India, Pakistan, Vietnam, etc. enormous opportunities. Furthermore, he shared with the meeting his conviction that the Chinese cotton policy will not be changed prior to March 2014.

Mr. Cheh stated that production of extra-long staple cotton (ELS) in China dropped from 170’000 to merely 40’000 intensifying the lack of supply around the world.

The meeting shared the opinion that the continuation of the current Chinese cotton policy is not sustainable and any correction of its direction needs to be handled with utmost care in order to prevent serious market distortions and extreme price volatility.
Defaults and Enforcement
With regard to the high numbers of defaulters the Committee discussed how ITMF could assist in the current scenario, since defaults place serious competition to those spinners, who honor their obligations. In this context the question was raised why the number of defaults is significantly larger in some countries compared to others? Several reasons were brought forward. First, in some countries the possibility of enforcement is practically inexistent. It may take many years (and thus a lot of resources) before a party might win the case in court. Secondly, in some countries there is a better tradition of making use of financial instruments to hedge against price fluctuations. Thirdly, the non-availability of working capital often prevents companies from hedging. Fourthly, sudden fluctuations in currencies can also be a strain to a company’s working capital.

The meeting discussed the question whether an insurance against defaults could be a solution. Mr. Macdonald stated that this was under discussion within the ICA, but the cost was likely to be prohibitive, he therefore believed the trade should insure itself against defaults by using ICE options, the cost of which to be included in the selling price. If all sellers undertook this protection spinners would pay the same equivalent price and therefore not lose any competitive advantage. He suggested discussing this type of protection with the cotton trade at the meeting of the Joint Cotton Committee.

Furthermore, the Committee agreed to send a message to the ICA that it supports the important principle of „Sanctity of Contract“ as well as measures to enforce it.

World Cotton Contract
The Chairman informed the Committee about the ongoing discussions under the auspices of the International Cotton Association (ICA) on establishing a “World Cotton Contract” (future market). ITMF had been invited to participate in the discussion on the introduction of a “World Cotton Contract” (Future Market) that could complement the existing ICE Cotton No. 2 Contract. These discussions were on the important question of the delivery basis of the contract. Some participants were strongly in favour of the concept of delivery at origin, whilst others as well as spinners were in favour of the concept of delivery at destination. Finally it was decided the proposal should include Malaysian port warehouses CIF, was well as Australian and the existing US warehouses as delivery points. The Intercontinental Exchange (ICE) in New York is currently working on the proposal.

The Committee supports the concept of delivery at destination and asked the Chairman to continue emphasizing this position in any future discussions with ICE.

ICAC Task Force on Cotton Identity Programs
The Chairman informed the meeting about the establishment of a group of experts by the ICAC that has the objective to identify and describe all cotton programs currently active. He informed the Committee that a first report of this group will be presented in a few weeks at the Plenary Meeting of the ICAC in Cartagena/Colombia.

In this context Mr. Bedi stated that the cotton program “Cotton made in Africa” (CmiA) should change its name into “Cotton grown in Africa”. However clearly CmiA is already a well established brand and therefore a change seems unlikely.
Cotton Contamination Survey 2013
The Director General informed the meeting that the replies from cotton spinners from around the world for the Cotton Contamination Survey 2013 are currently compiled. The results will be published at the end of 2013 or at the beginning of 2014. He pointed out that the acceptance of the online-version of this survey is increasing continuously and is currently around 60%.

International Committee on Cotton Testing Methods (ICCTM)
The Director General informed the Committee that some members of the Executive Committee of the ICCTM met informally in June 2013 in Raleigh (USA) discussing the areas of interest for future research activities as well as the procedure for additional testing instruments that could be interested in receiving formal recognition from ITMF-ICCTM. The next formal meeting of the ICCTM will be held in Bremen/Germany in conjunction with the International Bremen Cotton Conference (March 19-21, 2014).

ICA Cotton Consumers Committee
The Chairman informed the Committee about the establishment of a so called “Cotton Consumers Committee” by the ICA. The objective of this Committee is to bring together cotton traders and spinners in order to discuss proposals and ideas for improving cotton contracts and the respective bylaws and rules.

Mr. Simeoni emphasized that any contract must be easy to read and understand. If a contract is not kept simple it loses its credibility and value and thus its purpose.

The Chairman asked the persons present whether anyone would be available to join this “Cotton Consumer Committee” which is chaired by Mr. Andrew Macdonald.

Mr. Patodia and Mr. Bedi offered to join and contribute to the work of the Committee.

Committee Membership
The number of members stands currently at 12. At the meeting the Committee discussed the future composition of the Committee. The Committee agreed to welcome Mr. Thomas Nasiou (Uster Technologies/Switzerland) as a new member of the Committee.

Furthermore, it agreed that members who have neither attended meetings of the Committee nor participated in activities of the Committee (e.g. country visits) should be asked whether they intend to remain a member of the Committee.

The meeting agreed that a member from China would be highly welcome and therefore asked the Secretariat to identify with CNTAC a suitable candidate. It also welcomed the idea to invite an expert from Esquel. Mr. John Cheh welcomed the idea and agreed to look for a suitable candidate.

The Committee agreed that any member of the Committee should meet the following requirements:

- Cotton spinning expert
- Fluent in English
- Time and resources to participate in the Committee’s country visits
Next Country Visit
The meeting was informed by the Chairman that ITC had approached ITMF whether the Spinners Committee would be interested in visiting West Africa in connection with an ITC-project. A meeting with a representative of ITC was scheduled for Sept. 20.

It was also discussed that alternatively the Committee could visit China in 2014 linking the visit to the ITMF Annual Conference in 2014.

Next Annual Committee Meeting
It was agreed to hold the next meeting on the occasion of the ITMF Annual Conference 2014 which will be held from October 16-18, 2014 in Beijing.

Discussion about other Fibers
Mr. Ajay Sardana (Birla Cellulose, India) suggested that also issues concerning other fibers should be discussed in the meetings of the Spinners Committee.

Report by the Joint Cotton Committee (JCC)

Opening Remarks by the Chairman of the Meeting
The Chairman of the Committee, Mr. Jeff Elder (USA), opened the meeting thanking everybody for attending the Committee being a forum for an exchange of ideas between spinners and the cotton trade.

Proposed Changes of ICA’s Bylaws and Rules
A report was given regarding the ICA arbitration system and new measures are being taken to assist enforcement of awards as well as creating deterrents for defaulters who circumvent honouring awards.

The Chairman of the ITMF Spinners Committee, Mr. Andrew Macdonald, stated that the Spinners Committee fully supports the ICA striving to increase commercial security. However, representatives from the spinning industry emphasized the necessity of understanding the principle of “invoicing back”, and how to apply the rule. The concept should be fair to both parties and not abused, as has been detected in some cases. Furthermore it was mentioned that while some proposals of the ITMF Spinners Committee to modernize the ICA Bylaws & Rules have been taken up, other important suggestions had not.

Spinners reminded the meeting that in many cases their contracts of yarn sales are not protected, and that often contracts are cancelled on short notice and without compensation. In this context it was discussed how standardized yarn contract could be hedged. The proposal to create a basic/standard yarn contract – similar to the well established cotton contract – was dismissed as being unrealistic due to the endless varieties of yarns. Instead it was suggested by the Chairman of the ITMF Spinners Committee, to consider an insurance solution based on future options to protect the parties against defaults of cotton contracts. The cotton traders pointed out that this would be extremely expensive, and, in the past the spinners were not prepared to accept this cost in their purchases. The spinners reminded the audience that today
they can no longer act as pure speculators as was the case in the past, and that they need to protect their business and thus look to the cotton trade for help.

**World Cotton Contract**
The meeting was informed that a special Committee under the auspices of the ICA was established to discuss the possibility and feasibility of establishing a World Cotton Contract. It was explained that currently a group of 30 persons mainly from the cotton trade and from various service providers as well as a few cotton spinners (the Chairman of the Spinners Committee was invited to represent the ITMF) are discussing the concept of a world cotton contract. The main reason for establishing a world cotton contract is the expressed interest of the trade and textile mills in having a futures contract that would allow delivery of international growths of cotton against the ICE futures positions, and reduce somewhat the volatility of cotton prices. Since there is a limited supply of tenderable U.S. cotton there is a lack of confidence in the ICE Cotton #2 contract to fulfil its role as a pricing and hedging tool sufficiently. The meeting was informed by the cotton trade that also the ICE and CME will be included in the discussions.

The Spinners Committee expressed that it favours a world contract which allows for delivery at destination.

Some questions were raised as to the format for participants to understand the rules of such a contract, and were informed that basically the operation would be identical to the current ICE contract, except that in the event of open positions on the last trading day which would require physical delivery, this could take place not only in the USA but also Australia and a Far Eastern Port, most likely in Malaysia.

**ICAC Task Force on Cotton Identity Programs**
It was reported by Mr. Andrew Macdonald that the ICAC has established a Task Force on Cotton Identity Programs. The main objective of this Task Force will be to compile information about different cotton programs and initiatives around the world. This should help to have a better understanding of trends in the global cotton industry.

**Reports from the ICAC Task Force “Commercial Standardization of Instrument Testing of Cotton” (CSITC)**
The Chairman of the CSITC Mr. Andrew Macdonald reported that the Task Force was well satisfied with the improvement in the results from participating laboratories, and encourage all involved in the cotton industry who possess cotton testing instruments to actively participate so that the world may come and rely more and more on instrument testing of cotton and move away from the antiquated system of hand classing still prevalent in some countries.

**Report from the ITMF on the Cotton Contamination Survey 2013**
The Director General of the Committee reported about the progress of the upcoming ITMF Cotton Contamination Survey 2013. He stated that it is still difficult to convince spinning mills to participate in the survey though the possibility to complete the respective questionnaire online has certainly contributed to a rising number of mills participating in the survey.

**BCI**
The Chair of the Spinners Committee reported that his Committee had previously viewed BCI as a marketing gimmick without a future. However the new system, the
MBA (Managed Balance Administrative) and the MBP (Managed Balance Physical), improves not only the objectives but also the long-term future for this initiative. These programs work on a credit basis thereby avoiding the expensive and basically impossible system of direct traceability of cotton bales right through the long textile chain. The new system will encourage more and more BCI cotton to be commercialised under the criteria of sustainability.

BCI is encouraging other initiatives to merge with BCI. In this context it was informed that BCI has signed an agreement with Cotton made in Africa (CmiA) according to which CmiA can be traded as BCI cotton, but not the other way around. It was also stated that no premium for BCI cotton should be paid at farm level as farmers would be producing cotton in a system that is not only improving sustainability but also efficacy. The market would have to decide whether retailers and their customers pay a premium, since BCI has no control on this. The Committee was reminded that BCI is to a large extent similar to the Australian cotton industry’s BMP-concept (BMP = Best Management Practice).

The question was raised that the implementation of any standardized concept and the respective certification process would add costs. This was not denied but at the same time process should also improve the quality and the efficiency of cotton production, thereby covering these costs to the farmer.

As far as China’s participation in BCI is concerned it was stated that China is in principle supporting the concept of BCI if no additional costs are added.

The question was raised whether US cotton will be included into BCI. It was explained that discussions about such a move were ongoing since 2.5 years, and if it was to happen this would increase the BCI volume significantly.

**Intl. vs. Chinese Cotton Prices**

The Committee discussed the consequences of the current Chinese cotton policy. Representatives of the Chinese spinning industry stated that the international financial and economic crisis led to very volatile commodity prices including those of cotton. Therefore, China introduced a few years back a minimum support price. Thereafter international prices plummeted leaving the Chinese government guaranteeing cotton prices significantly above the international cotton prices. The impact of China’s cotton policy on international markets has been to sustain the market at current levels by importing yarn from the neighbouring countries but this policy has had serious effects on the national textile industry. Since the Chinese cotton policy was developed in the framework of a planned economy where the interests of cotton farmers have a very high priority, no attention was paid towards the consequences of such a policy for the domestic industry. China’s cotton policy has become relative complex and today is not only supporting the farmers but also the intermediaries. The current system is clearly not satisfactory and therefore it is expected that in the next cotton season 2014/2015 the policy will be changed. Whether the instrument of direct subsidies is introduced remains to be seen. The necessity of making use of market economy tools in China’s cotton policy that are not distorting market prices seems to be obvious when looking at the difference of international cotton and Chinese prices with the later being +/-50% higher.
Representatives from the Chinese spinning industry stated that the current cotton policy in China has severe negative effects on cotton spinners in China as spinners have to buy Chinese cotton at prices that are significantly above international prices. Even with higher turnover profitability has dropped and very often has resulted in losses. To counterbalance to a certain extent the negative effects of high domestic cotton prices Chinese cotton spinners are importing if possible cotton at lower international prices.

It was stated that China’s stocks are expected to increase to approx. 12 million tons at the end of the current season. Chinese cotton spinners are hoping that domestic cotton will be released at a discount in the current year in a controlled way. They are especially hoping that the Chinese cotton policy will change next season fundamentally to direct subsidies paid by the government with cotton prices floating freely according to supply and demand.

As far as subsidies are concerned it was stated that direct subsidies to farmers are not easy to implement as there are many technical issues. Nevertheless, in four counties tests with direct subsidies are underway.

A fundamental question discussed in the meeting was whether cotton production will be a long-term strategic objective of the Chinese government (cotton versus food crop). The opinion was shared that the overall cotton acreage will decline in the future which is both affordable and feasible. The province of Xingjian is an important cotton growing area and will remain so also in the future.

Report by the Home Textiles Producers Committee (HTP)

Opening Remarks
Mr. Christian Schindler, Director General, opened the meeting with a few introductory remarks.

Update: Pass-Through Analysis of Cotton Prices
An update of the latest research paper “Pass-through Analysis of Cotton Prices” by the ICAC and Cotton Incorporated was presented by Terry Townsend, Executive Director of the ICAC (see attached document no. 2a).

The main findings of the latest “Pass-through Analysis of Cotton Prices” (September 2013) were that while cotton and yarn prices peaked in 2011 in comparison to prices in August 2010 (A-Index in March 2011, landed fibres in June 2011, yarn index in March 2011, landed yarn in May 2011 and garments in September 2011), prices at retail level continued rising and were 6-7% higher in September 2013 as compared to August 2010. Since the peaks in 2011 supply chain prices – fibres, yarn garments – were in retreat. Only retail prices for apparel did not come down but kept increasing.

Looking at home textiles in more details it can be noted that their prices increased slightly more than those of apparel (less cut-and-sew). Also in July 2013 cotton-dominant apparel, sheets and towels were still higher by 12%, 13% and 6%, respectively than in August 2010.
It is important to note that consumer spending for apparel and home textiles is a relative small proportion of the overall budget (apparel = 3.6% and linens = 0.2% as compared to food (15%) or health care (9%). Since 1996 a significant change in share of consumer spending took place. In 2012 the share of apparel in consumer spending was 0.9% lower than in 1995. The situation in the segment “Food@home” was similar where consumer spending was also negative at -0.7%.

**Sustainable Textiles Coalition (STC)**

The Committee was invited to comment on the question whether and how ITMF should get involved with the initiative “Sustainable Textiles Coalition (STC)” ([www.textilescoalition.org](http://www.textilescoalition.org)) that was recently established by a few retailers and manufacturers of home textiles. The objective of the STC is to develop and use a sustainability index tailored to home textile products (similar to the Higg-Index of the Sustainable Apparel Coalition ([www.apparelcoalition.org](http://www.apparelcoalition.org)). The discussion showed that this initiative is not known well among participants of the meeting. The ITMF Secretariat was asked to make some inquiries about STC.

**Presentation by “Euromonitor International”**

Mrs. M. Cruz del Barrio, Head of Home and Garden, Euromonitor International, gave a presentation on “Bedroom or Bathroom: Where is the Real Action?” (see attached document no. 2b).

**Chairmen of the Committee**

The Director General invited Mr. Benoit Hacot who is Vice Chairman of the Committee to act as Chairman for the time being. Mr. Hacot agreed to do so.

**Next Meeting**

It was suggested to meet again in conjunction with Heimtextil 2014 (January 8-11, 2014) in Frankfurt/Germany. The Committee suggested to hold the meeting either on Friday, January 10 or on Saturday, January 11 and asked the Secretariat to identify the best date and time for the meeting.

**Report by the Fibres & Applications Committee (F&A)**

**Opening Remarks**

The Director General opened the meeting with a few introductory remarks. He thanked the participants for their interest in this relatively new Committee.

**Report from the Seminar on Functional Textiles in June 2013 in Frankfurt**

A short summary about the seminar on “Functional Textiles” that took place on June 10, 2013 in Frankfurt/Germany prior to “Techtextil 2013” was given by the Director General. The various presentations of this seminar are available on the “ITMF Members Area” on the ITMF website ([www.itmf.org](http://www.itmf.org)). The meeting welcomed that such a seminar was organised and supports the organisation of similar events in the future.
Report from the Visit of Adidas Headquarters in June 2013
A short summary about the visit of the Adidas Headquarters which took place after the end of “Techtextil 2013” on June 14, 2013 was given by the Director General. He emphasized that it was a unique opportunity to learn more about the process of how a leading brand like Adidas is developing and producing new products from the first idea to the final product. It was especially interesting to see that brands are teaming up with many different partners from an array of companies and institutions to develop new ideas and products. The possibility to visit their lab and to talk to the Engineering Director directly provided a unique opportunity to better understand how brands like Adidas function and work. The meeting welcomed such visits that are providing opportunities to have first-hand contact with and insight into companies/organisations from partners along the entire textile supply chain from fibre to retail.

Presentation: “The Perspective for Fibres“
Mr. Loek de Vries, CEO, Royal Ten Cate, Netherlands, gave a very interesting presentation on the opportunities of fibres (see attached document no. 3a).

Presentation: “Chemical Fibres and Technical Textiles – Opportunities for a Healthy Future”
Prof. Thomas Gries, Institut für Textiltechnik, RWTH Aachen University/Germany gave a very interesting presentation on the various possibilities of using chemical fibers in medical applications (see attached document no. 3b).

Future Structure
The meeting discussed the future structure of the Committee. As the first Chairman of the Committee Mr. Loek de Vries, President and CEO, Royal TenCate (Netherlands), was nominated. Mr. de Vries was elected unanimously and accepted the election. As Vice Chairman of the Committee Mr. Abhimanyu Thackersey, Executive Director, Hindoostan Mills (India) was nominated. Mr. Thackersey was elected unanimously and accepted the election.

Next Meeting
The next regular meeting of the Committee will be in Beijing in connection with the ITMF Annual Conference 2014 (October 16-18).

Article in Technical Textiles
Attached (document no. 3c) you also find for your information the article “Technical Textiles 2012/2103” published in “Technical Textiles (4/2013)” written by Ms. Michaela Uppenkamp from the German Trade Association on Finishing, Yarns, Fabrics and Technical Textiles [Industrieverband Veredelung – Garne – Gewebe – Technische Textilien e.V. (IVGT)].

Report by the International Committee on Cotton Testing Methods (ICCTM)

The Cotton Competitiveness Conference, the ICAC-CSITC Task Force Meeting and the Standards Conference jointly served as a suitable basis for a meeting between those members of the ICCTM Executive Committee being present in Raleigh.
**Topics:**

Topics for the ICCTM work are

- Steps to be taken before the next meeting
- Input by the Steering Committee (Report March 21) / Questions from Terry Townsend to Christian Schindler (e-mail March 11)

**Background: ICCTM mandates**

It was agreed that the mandates serve as the best basis for planning the work of the Committee. The mandates are:

1. Encourage research into the basic science needed to develop commercially useful tests.
2. Encourage the development of enhanced testing methods.
3. Recognition of instruments and testing methods that are able to perform within allowable tolerances, and that achieve a result that correlates with a reference method.
5. Harmonize cotton testing results by means of
   - proposition and support for the international standardization of test methods
   - development of guidelines for testing
   - technical evaluations using world-wide round tests.
6. Discussion of problems related to testing of cotton fibre properties and their relations to cotton processing.

**Recognition**

**Recognition for spinning mill purpose:** Currently two instruments have been recognized by the Committee, and there is no direct request for an additional recognition at this stage. It was agreed that the actual success / benefit of the recognition to the customers should be reflected during the next Committee meeting in Bremen. Textechno and Premier will be asked to report about their experience using the ITMF Recognition. Additionally customers buying testing instruments will be asked if/how the recognition / its results were used. And perhaps ITMF can give statistics about downloads from the according website.

All agreed that the most suitable instrument for the recognition will be the Cottonscope instrument for Maturity and fineness measurement. Stuart will be asked to get in contact with the Cottonscope company for promoting this step.

**Recognition for instrument cotton classification:** It was agreed that ASTM D 7410 is the most suitable basis for recognizing instruments for cotton classification. Currently no ICCTM specific criteria are planned to add or replace this standard procedure.

**Recognition for Reference Testing:** It was agreed that it will not be possible to generate general criteria for a recognition of a reference testing instrument besides the usual scientific criteria, as this topic is too complex (e.g. just remembering the maturity reference discussion and necessary references for short fibre testing). Certainly this is a very important topic for ICCTM, but it should be addressed for each single instrument / cotton property without trying to generalize the procedure.
Important topics to be covered during the next full Committee meeting
Currently some identified topics are:

- **Length**
  - Valid reference for short fiber content
  - Feedback from spinners as to what is most important to them when defining short fiber content
  - Suitable parameter for short fiber parameter \( \rightarrow \) Leon Cui (USDA-ARS SRRC) should be asked to propose suitable definitions to be integrated in the software of the instrument manufacturers

- **Maturity**
  - Valid first reference and its modification during the last years
  - Cottonscope as a second reference?
  - Adaption of the calibration of the given instruments (like AFIS) to the maturity of the valid first reference

- **Stickiness**
  - Comparison of stickiness results in a round trial

Input for other topics will be asked from the Executive Committee and the Full Committee.

The topics mentioned by any full committee member will be screened for relevance by the members of the Executive Committee prior to the Bremen Full Committee meeting in order to focus on the most relevant topics.

**Harmonization**
The ICA Bremen / the Bremen Cotton Exchange are discussing about supporting extra fine round trials. Participation cannot be free of charge. It will be important to estimate the potential participants benefitting and paying for that service. The Committee may serve as a basis for this.

The ICCTM committee should continue giving input for the CSITC / ICCTM Guideline for Standardized Instrument Testing. Included should be details from the modified ASTM D 5867, from the Australian BMP, as well as e.g. new info for the modified trash measurement.

**Letter to the Full Committee**
For stimulating the work for the 2014 meeting (March 18, 2014 in Bremen/Germany), it was agreed that it will be useful to send a letter to the Committee with the following content:

- 2012 report given as attachment. Now for the agreed topics and planning for 2014 necessary.
- Mandates: Ask for important topics for any of the mandates in the mandate list
- Recognition: Ask for proposals for recognition of new instruments
- Topics for length, neps, maturity, stickiness, color
  - Results for the given topics (see above)
  - Important new topics to be considered
• Promote the opportunity for proposals to the Steering Committee for funding of applied research leading to commercially relevant solutions to current challenges
• Ask for any modifications on the CSITC / ICCTM Guideline for Standardized Instrument Testing.

Input from Terry Townsend / Steering Committee:
• What steps will be taken to encourage presentations more focused on issues of commercial relevance? And: What steps will be taken to ensure a decision oriented meeting in 2014?
  ➔ Executive Committee will jointly screen the topics based on the mandates of the Committee
• What improvements are being made in the recognition procedure
  ➔ A) Steps for recognition were refined in the 2012 meeting. B) Benefits / use of the recognition shall be reflected in the 2014 meeting. C) Cottonscope will be asked to apply for recognition.
• Do the officers anticipate that concrete proposals for applied research will be submitted to the Steering Committee?
  ➔ Full Committee will be asked to submit proposals.

Membership

Since the last meeting of the Committee of Management the following changes in the composition of the ITMF membership took place:

ENTRIES:
• Birla Cellulose, India (Corporate Member)
• Texprocil, India (Associate Member)
• Huntsman, Singapore (Corporate Member)
• Supima, USA (Associate Member)
• Bannari Amman Spinning Mills, India (Corporate Member)

Date and Location of ITMF Annual Conference 2014

It was proposed that the Federation’s next Annual Conference will be held in Beijing, China from October 16-19, 2014 in connection with the Intertextile Shanghai Apparel Fabrics (October 20-23, 2014).

The Committee of Management welcomed this invitation very much and thanked CNTAC for having invited the ITMF membership to convene in 2014 in China.
Date and Location of ITMF Annual Conference 2015

Mr. Gomes informed the meeting that the Board had been informed via the ITMF Secretariat by Dr. Mark Lange, President and CEO of the National Cotton Council (NCC) that in 2015 the ITMF Annual Conference will be hosted by the US cotton industry in membership with ITMF in the USA. Mr. Macdonald informed the meeting that while several persons have been promoting the idea of holding an ITMF Annual Conference in the US again, Mr. Werner Bieri, until recently CEO of Buhler Quality Yarns (USA) deserves special recognition.

Code of Conduct

Mr. Gomes informed the Committee of Management that it had discussed a first draft of a “Code of Conduct” at its Board Meeting on September 8, 2013 in Bregenz that was prepared by the Secretariat and Mr. Andrew Macdonald (see document no. 4). The Board agreed that this first draft was good enough to be submitted to the Committee of Management for review and further discussions. Any comments about this first draft are most welcome.

Format of the ITMF Annual Conference

The view was shared that while the conference in Bregenz was in general well received due to the high quality of the speakers, the current format of the ITMF conference should be adapted in a way that more interactive discussion among panellists as well as among panellists and delegates are possible. On the other hand it was also pointed out that ITMF members need to be more pro-active prior to the conference regarding input on topics and speakers. In this context it was suggested that in the future the Secretariat should prepare a questionnaire about how the conferences are perceived by the participants.

Concluding Remarks by the President

Mr. Josué C. Gomes da Silva thanked everyone for a productive and efficient meeting in light of the given time constraints. He wished all the participants of the conference good sessions and meetings as well as pleasant social activities. Finally, he invited everybody to convene for the next ITMF Annual Conference 2014 in China which will be held in Beijing from October 16-18, 2014.

January 2014
It is my pleasure, as Honorary Treasurer of the Federation, to present the financial report for the year 2012.

The Balance Sheet and the Income Statement as authorized by Universe, Zürich, were circulated to the Members of the Committee on March 26, 2013 and approved by post.

**Balance Sheet**

At the end of 2012, the Federation’s Net assets stood at CHF 619,182, +4.2% compared with 2011. The main reasons are higher market valuation of the marketable securities.

The balance sheet in total remains very sound.

**Income Statement**

The Total income rose by 3.1% to CHF 542,810. The main reasons were higher subscriptions fee from members and higher income from investments and interests.

Payment defaults on outstanding invoices rose to CHF 70,383 (2011: 24,490). This was mainly the result of outstanding fees from the member association and the associate members in Egypt (CHF 34,000) in 2011 and 2012.

The Total Expenditures dropped by 8.6% to 574,372 mainly by a reduction of the general and administrative expenses by 8.4% and the conference gain of 55,413 (2011: -41,168).

Thus, the Federation’s Total gain increased to +23,851 from -142,897 in 2011
It is proposed that for 2014 the basis of calculation of *Member Associations'* subscriptions remains unchanged:

- The minimum levy shall therefore remain CHF 4,000.
- The maximum levy shall therefore remain CHF 57,000.
- Subscription which fall between the upper and lower limits shall continue to be calculated according to the subscription formula based on an unaltered unit rate of CH 0.065064.
- No Member Association shall pay a subscription representing less than 60% of total national yarn production by the spinners, and consumption by the weavers, in the cotton-system sector.

It is also proposed that *Associate Members'* levies shall for 2014 be as follows:

**Textile Associations**
- CHF 15,000 Taiwan Textile Federation

**Cotton Associations**
- CHF 7,000 each American Cotton Shippers Association
- Cotton Incorporated
- International Cotton Association
- National Cotton Council of America
- CHF 5,000 each Australian Cotton Shippers Association
- Bremen Cotton Exchange
- Cotton Egypt Association

**Textile Machinery Associations**
- CHF 15,000 German Machinery Manufacturers Association (VDMA)
- CHF 13,000 Italian Textile Machinery Association (ACIMIT)
- CHF 12,000 Swiss Machinery Manufacturers Association (Swissmem)

*Corporate Members* shall pay an annual levy on the basis of turnover, the minimum amounting to CHF 3,000 for companies with a turnover not exceeding USD 50 million. For a turnover between USD 50 and 200 million, the annual levy will be CHF 5,000 and for a turnover in excess of USD 200 million it will be CHF 7,000 (maximum).
Pass-Through Summary
ITMF Annual Conference

Record Prices, Unprecedented Volatility

Sources: Cotlook, Emerging Textiles
Summary of Pass-Through

- Mar 2011: 154%
- Jun 2011: 78%
- Mar 2011: 67%
- May 2011: 55%
- Sep 2011: 25%
- 6-7% Present


Garment and retail price data seasonally-adjusted

Supply Chain Prices Mostly Retreat

- A Index
- Landed Fiber: -63% Aug
- Yarn Index: -40% Jun
- Landed Yarn: -42% Aug
- Garments: -33% Jun
- Retail: -10% Jul

Currently at highest value


Garment and retail price data seasonally-adjusted

change in prices relative to peaks, months indicate the latest available data points
Prices Remain Elevated at Later Stages

peak in prices relative to August 2010 level, with month of latest data point

Aug 3% 7% 13% 7%
Jun 0% 3% 13% 13%
Jul -1%

Garment and retail price data seasonally-adjusted


U.S. Retail Prices Remain Elevated, but Lower than Pre-Import Levels

US CPI for apparel, less footwear, index 1982-84=100

Source: U.S. Bureau of Labor Statistics
First Meaningful Increase in U.S. Retail Prices in More than a Decade

Source: U.S. Bureau of Labor Statistics

Apparel Prices in the EU also Increase

Cotton-Dominant Non-Apparel Import Prices

USD/SME, seasonally-adjusted

Source: OTEXA
Notes: Data seasonally-adjusted, all figures for cotton-dominant sheets (>50% cotton fiber content).

Cotton-Dominant Sheet Import Prices

USD/unit, seasonally-adjusted

Source: OTEXA
Notes: Data seasonally-adjusted, all figures for cotton-dominant sheets (>50% cotton fiber content).
Cotton-Dominant Towel Import Prices

USD/unit, seasonally-adjusted

Source: OTEXA

Notes: Data seasonally-adjusted, all figures for cotton-dominant sheets (>50% cotton fiber content).

Home Textiles – U.S. Imports

- Less cut-and-sew in most home textiles
- Home textile prices increased slightly more than apparel prices

Peak in Import Prices Relative to August 2010
percent change, with months of peak

- 26% Sep 2011
- 27% Oct 2011
- 28% Jul 2011

Source: US Department of Commerce, seasonally-adjusted data
Home Textiles – U.S. Imports

- Less cut-and-sew in most home textiles
- Home textile prices increased slightly more than apparel prices
- Towel prices have retreated more sharply than sheet or apparel prices

Latest Import Prices Relative to August 2010
latest month of data is July

Source: US Department of Commerce, seasonally-adjusted data

Price Movement & Demand Response: Towels

Source: OTEXA
Notes: Data seasonally-adjusted, all figures for cotton-dominant towels (>50% cotton fiber content).
Consumer Spending

- Apparel & home textiles are a small proportion of overall budgets.

EU-27 & Japan, spending on linens is 0.4%. Spending on Clothing is 4.3% & 1.6%.

Competition for Apparel Dollars: US

CHANGE IN SHARE OF CONSUMER SPENDING
1995 versus 2012

Medical Care: +2.2%
Gasoline & Fuel: +0.9%
Housing: +0.2%
Electronics: +0.1%
Food @ Home: -0.7%
Apparel: -0.9%

What does Euromonitor cover?

- **Bathroom Textiles**: Bath linen such as towels and washcloths, bathrobes and bath mats.

- **Bedroom Textiles**: Bed linen, such as sheets, pillowcases, blankets, plaids, duvets, throws, bed scarves and quilts.
Bath and Bed Textiles

BATHROOM OR BEDROOM: WHERE IS THE REAL ACTION?

- Bed Textiles
- Bath Textiles

© Euromonitor International

Bath and Bed Textiles

BATHROOM OR BEDROOM: WHERE IS THE REAL ACTION?

- Bath Textiles
- Bed Textiles

© Euromonitor International
BEDROOM OR BATHROOM: WHERE IS THE REAL ACTION?

Bedroom Textiles Performed better (2007-2012)

<table>
<thead>
<tr>
<th>Bathroom Textiles</th>
<th>Bedroom Textiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>5%</td>
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</table>

Bedroom Textiles will keep performing better! (2012-2017)

<table>
<thead>
<tr>
<th>Bathroom Textiles</th>
<th>Bedroom Textiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

© Euromonitor International
Bedroom or bathroom: where is the real action?

Expenditure per household

**Switzerland**
- Bed textiles = $42
- Shower gel = $37.3
- Bath textiles = $11
- Toilet paper = $64

**China**
- Bed textiles = $31
- Shower gel = $3
- Bath textiles = $7
- Toilet paper = $25

**India**
- Bed textiles = $6
- Shower gel = $0.1
- Bath textiles = $2
- Toilet paper = $0.1

**US**
- Bed textiles = $63
- Shower gel = $20
- Bath textiles = $28
- Toilet paper = $73

---

Think about your bathroom...

- Does it look like this one?
Well… think again…

Households with a Bath or Shower (% of Total)
What Is The Best Invention Ever?

(According to my mum?)
Possession of Washing Machine

Vietnam  Spain  Mexico
23%   99%   68%

Peru  China  India
22%   73%   8%

To sum up

- There is room for growth both in emerging and developed markets
- In developed markets > innovation > fabrics (modal) > better “performance”
- In emerging markets > first purchase > growth by volume

- Obstacles to growth > Cultural issues > Saudi Arabia
  > Economic issues >
THANK YOU FOR LISTENING

M. Cruz del Barrio
cruz.delbarrio@euromonitor.com

Euromonitor International
60-61 Britton Street
London EC1M 5UX
The future of fibres
ITMF meeting

Ir. L. de Vries, President and CEO Royal TenCate
Bregenz, Austria, Sunday, 8 September 2013

Agenda
The future of fibres

1. Fibre property matrix
2. Examples
3. From fibres to business
4. From raw materials to high tech fibres
5. Natural fibres
6. Man-made fibres
7. System fibres
8. Smart production and manufacturing
9. Annex
Fibre property matrix
Changing the performances and functionalities of natural and man-made fibres

<table>
<thead>
<tr>
<th>Performances</th>
<th>Natural fibres</th>
<th>Man-made fibres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile technologies</td>
<td>Natural fibre properties</td>
<td>Modified or adjusted inherent fibre properties</td>
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<tr>
<td>Non-textile technologies</td>
<td>Modified or adjusted non-inherent fibre properties</td>
<td>Fibre based material properties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>System fibre properties</td>
</tr>
</tbody>
</table>

Examples

Textile technologies:
- Spinning
- Weaving
- Extruding
- Rapping
- Et cetera

Non-textile technologies:
- Bleaching
- Polymerising
- Finishing
- Resin
- Digital inkjet
- Induction
- Nano
## From fibres to business

Creating the future of fibres

<table>
<thead>
<tr>
<th>Fibres</th>
<th>Products</th>
<th>Markets</th>
<th>Businesses</th>
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<tbody>
<tr>
<td>Natural fibres</td>
<td>Wovens</td>
<td>In transit</td>
<td>• Space and aerospace</td>
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<td>• Automotive</td>
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<td>and</td>
<td>Non-wovens</td>
<td>In habitats</td>
<td>• Infrastructure</td>
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<td>Man-made fibres</td>
<td>Composites</td>
<td>At work</td>
<td>• Water management</td>
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<td>• Agri and horticulture</td>
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<td>• Constructions</td>
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<td>• Et cetera</td>
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<td>Modules</td>
<td>During leisure</td>
<td>• Personal protection</td>
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<td>Systems</td>
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<td>• Industrial safety</td>
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<td>• Leisure</td>
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<td>• Et cetera</td>
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## From raw materials to high tech fibres

Creating the future of fibres through technological innovation

0: Raw Materials

1: Natural fibres

2: Man-made fibres

3: Modified natural fibres

4: System fibres

5: Textile and non-textile **sustaining techniques** and **disruptive technologies**

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1: Natural fibres in low tech applications

With simple textile production techniques natural resources can be processed into products with one or a few functionalities.

2A: Man-made fibres in low tech applications

Basic textile technologies using man-made fibres can add basic functionalities: weight reduction or tear strength.
2B: Man-made fibres in high tech applications

Man-made fibres using high tech textile technologies can add advanced functionalities: fire resistant or ball performance.

3: Modified natural fibres in high tech applications

Man-made fibres in combination with non-textile technology add more complex functionalities: UV-protective or flame resistant.
4A: Man-made fibre based materials in high tech applications

With more complex non-textile technologies, man-made fibres can be processed into high tech materials and systems.

1: Natural fibres
2: Man-made fibres
3: Modified natural fibres
4: System fibres

4B: Man-made system fibres for high(er) tech applications

High(er) tech non-textile techniques can integrate new functionalities into the fibre and create a system in itself.

1: Natural fibres
2: Man-made fibres
3: Modified natural fibres
4: System fibres

- System fibres retaining water by collecting water from the air
- System fibres being photovoltaic by converting solar radiation into electricity
4B: Man-made system fibres for high(er) tech applications

High(er) tech non-textile techniques can integrate new functionalities into the fibre and create a system in itself.

0: Raw Materials
1: Natural fibres
2: Man-made fibres
3: Modified natural fibres
4: System fibres

System fibres to transport data
System fibres with membrane function to clean water
System fibres fully integrated to harvest energy
System fibres fully integrated for medical applications
Smart production and manufacturing
Towards the Factory of the Future

0: Raw Materials
1: Natural fibres
2: Man-made fibres
3: Modified natural fibres
4: System fibres

Sustaining techniques
synthetic turf carpet
3D weaving

Disruptive technologies
digital inkjet printing and finishing

5: Textile and non-textile sustaining techniques and disruptive technologies

Towards the Factory of the Future
Value chain management by TenCate
TenCate business model
Value chain management and market focus

Mass customization

On demand delivery

Flexible low cost processing

Customized product portfolio

TenCate innovation model
Innovation management

New applications

New functionalities

SPEC INNOVATION

TECHNOLOGY INNOVATION

PRODUCT INNOVATION

PROCESS INNOVATION

New ‘business as usual’

New production techniques

The future of fibres
Sustaining technique
Introduction of the first synthetic turf carpet 3D weaving machine

Disruptive technology: towards the Factory of the Future
Introduction of the first industrial production machine for digital printing and finishing using inkjet
Introducing innovative outdoor fabrics to the market
TenCate business model regarding value chain management

Towards the Factory of the Future
TenCate Outdoor Fabrics regarding awnings
Protecting people
Chemical Fibres and Technical Textiles – Opportunities for a Healthy Future

Thomas Gries, Gunnar Seide, Christoph Monfeld

ITMF Annual Conference, Bregenz, September 2013
Health care sector

Health expenditure at about 260 billion euros in Germany

- about 11% of GDP,
- 4.9 Mio. Employees (roughly one in nine);
- => bigger than automotive
- still increasing
- Market is strong regulated
- Many revisions and reforms

Definition quite tolerant; here e.g.:

- core area ambulatory and stationary treatment, work with the elderly, health administration
- supplier and input area: pharmaceutical and medtec industry, health trading
- marginal area: Fitness- und wellness area, assisted living or health tourism

Gross value of the health care sector and percentage of overall economy
[Statistisches Bundesamt 2011, BMWi, 2012]
The market

Biomedical engineering (D)

- size of the market ~21 B €/a
- worldwide market share 15%
- foreign sales ~14.5 B €/a
- large proportion of SMEs
- >70,000 employees (growing)
- 30% of turnover with products less than 3 years old
- 10% RTD of total budget

The chart shows the growth in the market over the years, with a total export quota of ~65%.

F&A - Gries, document no. 3b
Textiles and health care

Implants & Tissue Engineering
- Connective tissue
- Cardiovascular
- Orthopedics

Medical textiles
- Active wound care
- Hospital textiles

Hygiene
- Health/Well-being
- Commodities
- Disposables

Health Monitoring
- Risk patients
- Sports
- Workplace
Textiles and health care

Hygiene

Hospital textiles

Source: TITV-Greiz

Bandages and compresses

Source: Vivometric

Implants

Source: Ethicon

Filtration

Source: Fresenius

Wound dressing

Source: Hartmann

Telemedicine/ Monitoring

Source: TITV-Greiz
Medical Needs for smart textiles

Challenge of ageing population
- mismatch of elderly people with regard to medical staff (nurses, doctors, physiotherapists…)
- hospital beds
- nursing home beds
- working population (funding of the health systems)

Smart textiles
- highly integrated
- in normal environment
- supporting patients to
  - stay longer at home
  - increase mobility
  - support medical staff
Smart textiles: assistance, monitoring, protection

Support of Daily Life / Home Care
- remote control
- mobile phone
- orientation
  - at home
  - on the road

Disease Control
- ECG
- respiratory function
- diabetes (Glucose)
- (de-)hydration Status

Disease Control
- at work
- at home

Sources: www.fairmed.at
Sources: ITA
Smart textiles: future trends and developments

Smart materials / fibres
- drug-release fibres
- highly conductive fibers for Monitoring

Production technologies for Smart
- cost efficient
- mass production (e.g. pick-and-place)
- printing and coating technologies

Man-Maschine Interaction
- user friendly
- user oriented

micro metal conductive (MMC) fiber [WireKinetics]

screen printing, example SensFloor [BASF]

control by fold of cloth
Implants: applications and challenges for medical textiles

Applications
- surgery
  - suture materials, hernia meshes
- cardio-vascular implants
  - stents, vascular grafts, heart valve
- orthopedic implants
  - ligaments
- tissue engineering
  - scaffolds

Challenges
- personalization
- (bio-)materials
- functionalization
- biological function
Trends for implants

Tissue Engineering and Textile Implants

- combination of
  - textile reinforcement
  - biofunctionalization
  - directed load distribution
  - reduction of production time

(Bio)materials / fibre innovations

- pH optimized degrading fibers
- biobased Materials
**Extracorporeal medical devices:**
*E.g.* wound dressing and bandages

**Wound dressing made of innovative biomaterials**
- chronic wounds cause expenses of more than 20 bn. €/a in Germany
- passive therapies are unable to support the deranged cascade of wound healing

**Bandages with sensors and actuators**
- to control flexibility
- muscle stimulation
- compression therapy
Future trends for extracorporeal devices

Wound Dressing

- Wound dressing made of e.g. transgene silkworm silk
- wound management with control of moisture, temperature

Bandage

- Control and adjustment of pressure for compression therapy
- Drug Delivery bandage with controlled drug release

3-dimensional pressure measurement with Smart Socks and pressure mapping measurement with Alphamat [Alpha-Fit]
Disposables: e.g. diapers and incontinence products

Material and recycling aspects
- use of biomaterials -> compostable diapers
- improvements in the structure of diapers for better recycling
  - monomaterial
  - separators

Comfort
- improvements of absorbency
- smell removing
- drug release

Functionalization / Monitoring
- control of moisture
- detecting changes in urine as prevention
Aachen Maastricht Institute of Biobased Materials

I. Molecular & Applied Biotechnology
II. Chemical Processing & Molecular Upgrading
III. Materials Engineering & Soft Matter Technology
IV. Up-scaling & Technical Applications

Innovative polymers for…
… innovative applications
**Conclusion**

Health care sector is a relevant, innovative and growing market

Chances with demographic change:
Improving quality of life - from cost driver to growth engine

Innovative (bio)materials will enable innovative health care products

Aachen is the location for research within the health care sector in Europe!
Thank you very much for your attention

Univ.-Prof. Prof. h.c. Dr.-Ing. Dipl.-Wirt. Ing. Thomas Gries
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E-Mail thomas.gries@ita.rwth-aachen.de
Technical textiles for the construction, automotive or aircraft industries have become the sales force of the German textile industry, where they account for almost 50% of the total turnover. In Europe, this is about 30%. Technical textiles are also an integral part in the 2 traditional textile sectors - clothing (approx. 20%), and household and home textiles (about 30%). This involves functional fabrics for outdoor and sports clothing, fire-resistant, heat-resistant and electromagnetic shielding, home textiles and personal protective clothing, as well as rugs with embedded sensors, e.g. to detect and report a person falling to the ground.

The collection of statistical data by the Federal Statistical Office, however, records only the typical "technical" areas such as the production of narrow fabrics, impregnated, coated or laminated fabrics together with polymers, tire cord and other treated or coated fabrics for the manufacturing of hoses, conveyor belts or transmission belts. Subsequently the following statistical data captures only a portion of all technical textiles. The sector of nonwovens, together with composite materials, has increased by about 22% over last 10 years, and therefore contributed to the growth of technical textiles. The economic development of the German textile industry in 2012 was mainly characterized by a slowdown in demand. Sales decreased in 2012 compared to the previous year by 2.5% (domestic -3.1%, foreign -1.8%). The highest decrease in sales by -4.3% was within the Eurozone. The reason for this was the recession-induced decline in demand in the major EU countries. This hit German textile exporters strongly, because they handle more than half of their transactions within the EU. Only sales to the rest of the world increased by 1.3%. Even the 2 industry sectors "Production of technical textiles" and "Manufacture of nonwovens and products made from it", which have both been the engines of growth, had to accept significant losses in sales. The total turnover in the production of technical textiles decreased by 2%, and the revenue from the domestic production by 4.8% in 2012. However, international sales grew by 0.3%. Sales in the Eurozone dropped by 2.2%, while sales increased by 2.4% to other countries. The turnover in the production of nonwoven fabrics fell compared with the same period in 2011 by 4.1% and in the domestic market by 1.7%. Total foreign sales decreased by 5.8%, while sales in the Eurozone decreased by 5.4% and sales with other countries declined by 6.1%.

The previously spoilt sector of technical textiles has, similarly to the entire industry suffered a decline in sales in the first quarter of 2013. With revenues of € 572 million it was 8.8% below the previous quarter. Only turnover with foreign countries remained nearly unchanged compared to the previous quarter at 0.1%, while domestic sales fell by 20.2% to € 219 million. The sector of nonwovens started 2013 (1st quarter) with a total turnover of € 337 million, a decline of 4.6% compared to the first quarter of 2012. Domestic sales fell by 4.6% to € 142 million and foreign sales fell by 4.5% to € 196 million.

With 25% of the total market of technical textiles, the area of Mobiltech is the largest area within this sector. The large number of different possible end-uses of textiles in automotive, shipbuilding and aerospace offers a high economic potential for the German textile industry. In addition to the advantages of metal and plastic, textiles have the ability to be flexible and malleable. Their color, pattern and texture can be generated in countless variations, and functionalities can be integrated. The use of textiles - not only in automotive production - will continuously increase, as they are easy to recycle and are also light in weight. After Mobiltech application follow areas like Indutech, Sporttech, Buildtech and Medtech. Other areas of application for technical textiles are environmental protection and energy efficiency. The EU would like to increase the energy efficiency by 2020 by 20%. Products based on textiles can help reduce the energy consumption and enable self-powered products (such as reinforced textile fibers in rotor blades of wind turbines) and therefore reduce CO2 emissions.

All 9 of these applications have a high potential for innovative ideas and applications. Germany has a leading position, due to its high research and development intensity of 16 textile research institutes which are closely linked to industry. However, this leadership position is increasingly under attack, especially from China which is increasingly turning away from the lower price segments and towards more technologically advanced products. There is a noticeable mind change to renewable energy and environmental protection. Also a rising health consciousness of the Chinese population contributes to the growth of technical textiles.

In addition to the focus on quality, the development of innovative products and the cooperation between industry and research institutions, particularly the strengthening and expansion of partnerships and networks in the textile chain are key.

Sources: Stat. Bundesamt, VR Branchenreport No. 24/2013, Euratex, Deutsche Bank Research
Mission Statement

The International Textile Manufacturers Federation (ITMF) is an international forum for the world’s textile industries, dedicated to keeping the world-wide membership constantly informed through surveys, studies and publications, participating in the evolution of the industry’s value chain and through the organization of annual conferences as well as publishing considered opinions on future trends and international developments.

ITMF is committed to coordinate, represent and promote the textile industry at the international level.

The organization follows its mission by fulfilling the following objectives:

- providing a forum for discussion of matters appropriately within the common interest and concern of textile companies.
- providing a neutral meeting ground for textile trade associations for the exchange of information on matters affecting their textile industries, consistent with the trade regulation laws of the nations represented.
- acting as a central agency for the collection of information, statistical and otherwise, on textile manufacturing developments in all countries of the world.
- acting as spokesman for the world textile industry in matters relating to raw materials (cotton and man-made fibers).
- performing the functions of a liaison agent between the textile industries and governments and intergovernmental organizations interested in the textile industry.
- cooperating at the international level with organizations representing other sectors allied to their industry.

The Code of Conduct

The Code of Conduct reflects the core values of ITMF members and employees creating the foundation of trust for our external partners.

Integrity

ITMF and the members are committed to the highest degree of integrity and dedication, always working towards and acting in the best interest of all concerned. The needs and expectations of all involved in textile manufacturing and supply chain are taken into account, emphasizing the responsibility as regards the society and the environment. We treat our partners with respect and do not mislead them, and acknowledge the sanctity of contracts, being bound by all legally and morally binding agreements, as well as published information as regards any trade restrictions be they political or commercial.
Quality

ITMF is pledged to provide services of the highest quality through constant ongoing review of all aims, activities, outcomes and the cost effectiveness of every activity.

Confidentiality

The ITMF is committed to integrity and dedicated towards our members, keeping the highest degree of confidentiality in our activities with all past, present and potential members. No commercial or personal information about any member shall ever be released if not asked by the law. We extend the same standard to our members, employees and partners.

Compliance to the law

The ITMF will comply with all applicable laws, rules and regulations governing the business worldwide and expect all of our partners to do the same, and in compliance with ILO standards and laws relating to labor, worker health and safety, and environmental regulations. Issues will never be determined by gender, race, creed, age or disability.

Fairness

ITMF promotes fair competition not supporting any company or association whose activities would deter such competition. ITMF does not support price fixing, illegal concerted activities with competitors or exclusive dealer arrangements.

Professionalism

ITMF will conduct all activities professionally and with integrity, completely objective in judgment and any recommendations made.

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