KEY TAKEAWAYS - ABSTRACTS LECTURES

1. **Evolution or revolution in textile coatings and laminations, M. Van Parys - UNITEX (BE)**
   Key words: disruptive, emerging technologies
   The lecture will discuss different items and developments dealing with functional and smart coating compounds and membranes. Smart products Smart coatings include self-healing coating, stimuli responsive, interactive, adaptive and communicative coatings. Smart functions mimic in general nature. A few coatings based on self-healing polymers, stimulus-responsive and adaptive polymers, shape-memory polymers and liquid crystalline polymers are under research. Novel eco-processing technologies are plasma, mangento sputtering, radiation, digital and LCO_2-technologies saving natural resources (energy, water) and reducing chemicals and waste.

2. **Introduction to solventfree two-component polyurethane coating of textiles, P. Rigole – Vetex (BE)**
   Key words: novel solvent free PU-systems – two-component systems

3. **A novel Plasma Enhanced Chemical Vapour Deposition (PECVD) technology for hydrophobic/oleophobic durable coatings, G. Arnoult, - AGC plasma Solutions (FR - BE)**
   Key words: *PE-CVD-plasma – novel precursors – Repellent/barrier properties*
   Traditional chemical repellent coatings for workwear are mainly based on long perfluoroalkyl chain molecules (PFCs), typically C8 or C6, deposited through conventional 'wet' coating or padding processes. However, these PFCS are under restriction by REACH and under pressure (e.g. Greenpeace, retailers). In addition, the wet processes consume huge amount of water, energy and chemicals. All these problems and environmental legislations are incentives for producers to switch from wet chemical processing to dry technologies such as plasma. However, so far, the actual plasma technologies have not yet proven to be really fit for textile applications. Major problems are associated with high maintenance costs, non-uniformity, inadequate application level of deposited products and as a consequence low durability of the deposited functionalities. The hollow cathode-technology (HC) developed by AGC Plasma is a novel vacuum process designed to address and counteract the different problems associated with wet processes and with the weaknesses of the actual plasma systems. It is a high deposition source with extremely good uniformity and allowing the coating of thicker films on the substrate. In this lecture, hydrophobic and oleophobic coatings made by Plasma Enhanced Chemical Vapor Deposition (PECVD) on different kinds of textile (PET woven, PP non-woven,…) using the HC developed by AGC will be shown. We will focus on how the different parameters (Pressure, power, coating compound,…) modify the properties of the coatings (adhesion, wettability, olephobicity, abrasion resistance,…).

4. **Membranes for textile architecture: the present and possible futures, M. Durka - Sioen Ind. (BE)**
   Keywords*: membrane, advanced properties, solar, translucence, fluoropolymers, market insights.*
   Coated textiles for architecture rely mainly on very few products, the predominant membranes are PVC coated PES fabrics and PTFE coated Glass fabrics. These products have been adopted by the market due to their versatility and price/performances ratio but are limited with regards to advanced properties that were in recent years highly developed in other constructions materials due to, for example, energy saving policies. New membrane products with advanced energy saving properties, long lasting durability and recyclability are highly demanded by the market. Unfortunately, the development efforts to release such desired advanced materials remains high and limited to very few. The lecture will provide few snapshots on existing membrane materials and their advanced properties. From the pictures delivered, we will go through insights on future membrane materials and finalize the lecture with a development study case of a new fluoropolymer membrane with advanced properties for tensile architecture.

5. **Water based Polyurethane coating raw materials for textile coating, T. Michaelis, Covestro EM/LA (DE)**
   Keywords*: waterbased PU-coatings – biobased products*
   The possibility to use waterbased Polyurethane coating raw materials for textile coating will be discussed: the variety of products which be today possible to use as bio based products, functional products as MVT products or products with a super high elasticity or products which could be used for microfiber dipping…..all water based

6. **Textile coating for today, J. Hanel - A. Monforts GmbH & Co.KG (DE)**
   Key words: *high precision coating* **-** patented modular coating head

Monforts developed the Timatec coating to NEW high precision coating, versatile coating options and userfriendly interface. Now under the new name: "texCoat" available since ITMA Barcelona in June 2019. The "TexCoat" is suitable for retrofitting existing stenter frames and can also be included in new stenters from Monforts. "Montex Allround" is the patented modular coating head, which can be interchanged at the entrance of a stenter frame. The base setup is the overfeed module which will be delivered with only a new stenter frame from Germany. At the position of the overfeed module the customer can bring in, a knife coating module, a screen-printing module, a padder module and etc. For price oriented customers with lower quality demands, i.e. Denim customers, home textile customers, etc. Monforts developed a knife over air coating module, fully mechanic and pricewise very interesting. An overview over all these different coating modules produced by Monforts will be presented and explain the different fields of application.

7. **How to be sustainable in the new European scenario: FAITGREEN experience, D. Visentin – Fait Plast (IT)**
   Key words: novel membranes – sustainability
   Being a part of the plastic industry, FAIT PLAST has challenged the last vision of plastics being again creative. The development of a new transversal family called FAITGREEN make possible to add some more values in our proposition to the market using, as fundamental instruments, the renewability, the compost ability and the reuse of post-consumer recycled material. All the actions put in place could be measured assuring properly the result in term of eco-efficiency. The R&D activities and the political vision of community have to be in line to permit the complete expression of the circular economy. Now, in FAIT PLAST, there's different possibility to replace traditional plastic (fossil based and recyclable) increasing the sustainability.

8. **Raw materials to finished product in one step: combining dyeing and coating to deliver a step change in productivity, S. Kew – Alchemietechnology (UK)**
   ***Key words**: digital dyeing/coating technologies – new print heads*
   Alchemie is pioneering the application of digital fabrication technologies to a significantly broader range of materials, ranging from high viscosity liquids to solid powders. Its technologies are finding applications in many industries, ranging from aerospace and automotive to food and pharmaceuticals to paper and textiles. In all applications the principle is the same – delivering material only where it's needed and all under digital control. Alchemie Technology's first major application is a breakthrough waterless smart dyeing process called Endeavour, which is poised to revolutionise textile dyeing by solving one of the world's most pressing chemical pollution issues: the emission of dye-contaminated wastewater. Elimination of the wash processes enables a reduction in water consumption and waste emission by over 95%. The Endeavour process is a single-pass roll-to-roll technology, which means that it has the capability to operate at an order of magnitude higher throughput than conventional technology (up to 100 m per minute). This enables a completely new cost equation to be created for the colouration of textiles, reducing overall costs by around 50%. The process can achieve the same dyed results with fewer materials, less energy and less labour. Alchemie is now combining its breakthrough direct-to-textile dyeing process with a digital coating application process to deliver true end-to-end production capability, converting raw materials to finished product in one step. In this presentation, Alchemie describes a new process to deliver both colouration and coating in a one-step, single pass roll-to-roll process.

9. **Air purification technologies for the coating industry taking into account the economic aspects, G. De Smeyter - Airprotech (IT)**
   ***Key words:** recovering energy – afterburners*
   The company builds afterburners to destroy the solvents from the air and tries to design the installation in such a way that the customer can recover and use energy from the afterburn in one way or another.
   By concentrating, the necessary costs for afterburning are greatly reduced and even the less loaded air streams can still be burnt economically.

10. **Polyurethane technology in low gloss coatings for technical textile and automotive soft substrates and the new trends, G. Costa, R. Caprifoglio - Lamberti Chemical Specialities (IT)**
    ***Key words:** waterborne PU-technology – low gloss PU – technical/automotive applications*
    It will be showed how waterborne polyurethane technology provides very low gloss coatings as polyurethane binders and additives. A focus on the properties, including the performance to chemical, mechanical and Xenon UV light, of low gloss waterborne polyurethanes applied to technical textile and automotive applications. It will be anticipated the new trend following the vision of sustainable chemistry.

11. **Advancements in UV-cured textile coatings, F. Goethals – Centexbel (BE)**
Key words: UV-curable coating – UV-formulations
UV curing is a photochemical process that can be applied to cure inks, adhesives and coatings. Similar to thermal curing the resins are cross-linked, resulting in a fixed and polymerized film. Compared to thermal curing, UV curing offers some major advantages. For one, UV curing is very fast and will therefore *significantly reduce the production time. Secondly, UV formulations are either solvent free or water based, resulting in a very low VOC emission. UV curing systems also require less energy and space compared to large and high energy consuming thermal ovens. This makes UV curing a sustainable and eco-friendly curing technology. The UV curing technology is already well known and frequently applied in many industrial branches such as the graphic and wood sector. However, in textile industry, this technology is not widely adapted yet. One of the reasons is that UV coatings were initially developed as hard, protective coatings which were as such not suitable for application as flexible textile coatings. As UV resin manufacturers are also looking for new markets, they are developing UV curable resins for flexible substrates. As a result, resins are available on the market offering interesting opportunities for the textile industry. In this contribution we will present how UV technology can be used to apply flexible coatings on textiles. Firstly, some general input will be given on how to prepare suitable coating formulations. Secondly, it will be shown that UV curing is suitable for direct and transfer coating processes and what the advantages and disadvantages are of both processes. Finally, it will be explained how textiles can be made more abrasion resistant, flame retardant, waterproof (even after washing), UV-resistant and antistatic by UV cured coatings and finishes.*

12. **A new patterned electroless copper E-textile using an additive process, C. Hunt – Pireta (UK)**
***Keywords**: e-textile – jet printer*
The lecture will describe how fabrics can be patterned with electroless copper following the deposition of a catalyst with a jet printer. This penetrating process first activates the textile and then functionalises the textile with nano sized silver via the print process. The textile is then immersed in electroless copper to deposit a micron scale copper layer on each fibre within threads. Patterning by this process allows highly conductive interconnection across textiles, without impacting handle, drape, stretchability and breathability. Application examples of the technology will be discussed.

13. **Wear performance of functional coatings on delicate fabrics, E. Lempa - Niederrhein University of Applied Sciences (DE)**
Key words: Electrically conductive coatings - performance of coated fabrics
Two different delicate fabrics, low-weight PA ripstop and highly elastic PA knitwear were partially coated with different electrically conductive dispersions based on carbon or metal pigments. Numerous circuit patterns in different fineness were realized with screen printing/ coating. In particular, the influence of abrasion on the residual electrical resistance was analyzed. In addition, folding endurance and tear strength of coated fabrics were tested. Finally, the focus was set on the change of elongation behaviour with the knitted material.

14. **The sonochemical coating for textile with antimicrobial and antiviral nanoparticles for hospital textile, A. Gedanken – Bar-Ilan University (IL)**
Key words: sonochesmistry – nanomaterials – funtional properties
Sonochemistry is an excellent technique to coat nanomaterials on various substrates, imparting new properties to the substrates. After a short demonstration of coating NPs on ceramics and stainless steel, I'll present the coating of textiles such as polyester, cotton, and nylon. In all cases a homogeneous coating of NPs was achieved. Lately, the FDA shows less enthusiasm towards nano-Ag, as a result, we have moved to NPs of ZnO, and CuO as antibacterial agents. They were coated on the above-mentioned fabrics and showed excellent antibacterial properties. The coated textiles were examined for the changes in the mechanical strength of the fabric. A special attention was dedicated to the question whether the NPs are leaching off the fabric when washed repeatedly. The coated ZnO NPs on cotton underwent 65 washing cycles at 75 ° C in water in a Hospital washing machine, no NPs were found in the washing solution and the antibacterial behavior was maintained. An experiment was conducted at PIGOROV Hospital in Sofia, Bulgaria in which one operation room was equipped with antibacterial textiles, namely, bed sheets, pajamas, pillow cover, and bed cover. 22 Patients in this operation room were probed for bacterial infections. Their infection level was compared with 17 control patient that were using regular textiles. The results are demonstrating that a lower infection level is observed for those patients exposed to the antibacterial textiles. In addition to imparting antibacterial properties to textiles I'll show how to make textiles superhydrophobic, antiviral as well as dyeing.

15. **Benefits of inline basis weight measurements with a single sided X-Ray technique, L. Zerle - ZAP Systemkomponenten GmbH + Co.KG (DE)**
Key words: inline measurements
At production line where continuous running fabrics are processed, inline basis weight measurements are a most powerful tool to improve production efficiency and guarantee product quality. In order to be able to control process steps, these measurements have to be taken in the close vincity to the related process to be monitored. In many cases, only a single sided sensor can serve for these requirements.

16. **Improved productivity, enhanced quality and new smart textiles by optimized print/coating processing, K. Bär Adphos (DE)**
Key words: *drying step – NIR-drying*
The post printing/coating process – the drying step – is a major mandatory, but mostly also the todays limiting process for productivity, quality, costs and partially even for possible textile production processes. In this presentation, application examples how to overcome present limitations due to optimized drying for indirect textile printing processes (sublimation printing), direct to textile printing processes and processes for new functional textiles especially with multiple coatings processing are outlined and evaluated.

17. **Thermoplastic coating of glass fibres in the nozzle drawing process, A. Lüking - RWTH Aachen University (DE)**
Key words: *reinforced thermoplastic composites – UV-radiation*
The film stacking method is the industrial standard for the manufacturing of fibre reinforced thermoplastic composites (FRTCs) [1]. An alternative to this is commingling thermoplastic fibres with reinforcement fibres, e. g. glass fibres, into hybrid yarns [2]. However, the composites produced by the use of film-stacking or hybrid yarns cannot achieve an optimal impregnation of reinforcement fibres with the matrix polymer. This stens from the high melt viscosity of thermoplastics, which prevents a uniform wetting of the reinforcement fibres. Leaving some fibers unconnected to the matrix. This leads to composites with lower strength than theoretically possible. The aim of the research is the coating of a single glass filament in the glass fibre nozzle drawing process to achieve a homogenous distribution of glass fibres and matrix in the final composite. The approach uses the formation of a thermoplastic coating with film thicknesses ranging from 0,5 to 5 µm. To this 2-Hydroxyethyl acrylate is applied as the monomer and coated onto an E-glass filament in the nozzle drawing process as seen in figure 1. The radical polymerization is started via excitation of an initiator using an UV-LED lamp with a wavelength of 395 nm. Afterwards, the coated E-glass filament is winded. This development will realize the homogenous distribution of fibres and the polymer matrix in a thermoplastic composite allowing a higher fibre volume content leading to improved mechanical properties. Even though the glass filaments could be coated with HEA resulting in a homogenous sheath, other thermoplastic systems need to be investigated. On top, the scale-up to industrial spinning plants needs to be evaluated.

18. **Biodegradable materials and products, including textiles and/or coatings (bio-end life of textile materials), S. Deconinck** – OWS (BE)
The lecture will focus on the bio-end-of-life of textile materials. As you can imagine, we see an increased interest in the bio-end-of-life issue for textile and are currently assisting several companies in tackling this specific aspect. For reasons of confidentiality, we are, however, not allowed to say which companies, but these are well-known brand owners. Our presentation could explain the principle and nuances on biodegradability, tackling the different environments in which textiles unavoidably end up (soil, rivers, oceans, etc.).

19. **Advancements in biobased coatings, W. Uyttendaele – Centexbel (BE)**
There is a constant need for the improvement of materials applied in textile industries. Besides the technical performance, there is a demand for "bio, eco, natural and environmental friendly" by the consumer resulting in various textile labels. Furthermore, regulators prescribe a reduction of CO_2-emissions, a ban on solvents such as DMF and dangerous chemicals like diisocyanates. Biobased polymers can be used to make fabrics that meet performance requirements from the industry, the same can however not be said from coatings and finishes, these are currently mostly non-bio-based binders. Development of bio-based materials for coatings has been a challenge but significant advancements have been made by Centexbel for both PLA and bio-based PU binders. The development and properties of the PLA plastisol coating will be discussed as well as their functionalisation with fully bio-based additives to reach a 100% bio-based and cost-effective product. This will be followed by

the progression with 2 component bio-based PU coatings as replacement to solvent based systems. The advantages and disadvantages of these products will be discussed and linked to possible applications. This study presents the investigation of electrically conductive fabrics with low resistivity, coated with different formulations containing the conjugated polymer system – poly (3,4-ethylenedioxythiophene)-polystyrene sulfonate (PEDOT-PSS).

20. **Textiles with conductive coatings for electromagnetic shielding, V. Rubezienė, FTMC-Textile Institute (LT)**
Keywords: electromagnetic radiation shielding, coating, conductive polymers
The reduction of electromagnetic radiation (EMR) impact is very important protection for the people frequently using electrical equipment, which exposes humans to different frequencies of electromagnetic waves. The most utilized range is the part of microwave range, which can be defined as 1–40 GHz. Therefore, the importance of EMR shielding mostly relates to this microwave range and shielding materials, including textiles intended for this application, which are developed and investigated also in the similar frequencies.
Electrically conductive woven or knitted fabrics with particular electrical properties, offer an opportunity to achieve required EMI shielding effectiveness in various frequency ranges. Moreover, these thin shielding materials can provide the additional benefits of being user-friendly, the ability to use on the surfaces of all shapes because of their structural order and flexibility.

21. **Importance of European standardisation work for textile care of coated textiles, T. Leucht - Small Business Standards aisbl (BE)**
Coated textiles can be found in numerous applications e.g. functional decoration, weatherproof clothing, sun protection textiles as well as personal protective equipment (PPE) and flame- retardant materials. Coated textiles often require special care processes, which can only be carried out by specialised industrial cleaning and laundry companies. Due to the high diversity of materials, processes and applications, it is particularly a challenge for the professional textile care companies to provide suitable washing and cleaning processes to ensure functionality and product safety. In order to achieve this, it is important to apply useful standards. This lecture will give an overview of the already performed and future work focuses of industrial textile care, show gaps of existing standards and provide information on frequent complaints and cases of damage from the perspective of industrial laundry and cleaning companies. However, the complexity of standardisation in this area is a major challenge not only from a technical point of view, as some product groups are also subject to European regulation. This applies particular to personal protective equipment (PPE), which must comply with the requirements of the regulation (EU) 2016/425. Textile processing for PPE is currently provided by companies of all sizes, including small and medium-sized companies with a high degree of specialisation. It is therefore of important that standards also contain rules that are economically sensible and technically applicable for SMEs. The possibilities, trends and developments for PPE at European level will be explained from the point of view of an SBS Expert dealing with standards for coated textiles.

22. **Biobased piezoelectric PLA films for emerging IoT applications, B. Stubbe – Centexbel (BE)**
Piezoelectric polymers are currently receiving significant attention thanks to their remarkable electroactive properties and their higher flexibility and lower cost compared to inorganic piezoelectric materials. These "smart" polymer materials convert mechanical stresses into electrical charges, a property which can be exploited for micro-energy recuperation. In other words, these materials can be applied as an energy source for self-powered microelectronic systems such as sensors and RFID radio transmitters and receivers for many emerging applications with high added value (e.g. smart textiles, medical and industrial monitoring, home automation, etc.).
The biobased polymer poly(L-lactide) (PLA, polylactic acid), possesses distinct piezoelectric properties which are currently underutilized. In the INTERREG-project BIOHARV, the formulation and production of PLA-based mono-oriented films are being optimized. The aim of the project is to demonstrate the relevance of mono-oriented PLA for micro-energy recovery in addition to the feasibility of its implementation via conventional plastic processing techniques. A three-step production line for the fabrication of monoaxially drawn thin films was developed. This includes the formulation of PLA by means of twin screw extrusion, extrusion casting of thin PLA films and monoaxial drawing of the films. The piezo-electric coefficient of the resulting films demonstrates the shear piezoelectric property of PLA as well as the importance of both the PLA grade and the monoaxial drawing step. Moreover, the energy performance was measured under cyclic deformations and compared with PVDF based alternatives. Currently, the maximum electrical power generated by mono-

oriented PLA films is still quite low. Nevertheless, the generated power can be largely optimized through advanced PLA formulations.
It can be concluded that bio-sourced PLA is a promising material for micro-energy recuperation and a great potential for material and process optimization was detected. Currently, prototypes of micro- energy recuperators are being developed on pilot-scale. These will allow to utilize the specific "shear" piezoelectric properties of PLA in IoT application domains (i.e. connected objects).

23. **Coated textile-based sensors for inspection of composite materials, R. Schneider – ITCF (DE)**
Composites are not only lightweight but also highly resilient. Therefore, they are well established in engineering applications where components must withstand strong forces, e.g. in wind turbines, aircrafts and automotive. So far, the monitoring of mechanical deformation and damage of composite materials is performed by established analytical methods: Strain gauges, optical or piezoelectric sensors are the most common techniques. But they all have in common that they measure deformations only unidirectional. Moreover, large areas outside of the measuring cell remain unconsidered. A large-area sensitive sensor will be presented, which is simply generated by printing or coating a sensitive layer on the reinforcing textile. This sensor enables to determine mechanical deformations and damages of the entire component and it responds with a measurable electrical resistance to external tension or pressure. The influence of mechanical stress parameters (such as degree of deformation and bending speed) on the shape of the sensor signal will be outlined. It will be shown that even smallest deformations can be detected.

24. ***Smart design of polymeric dispersing agents for high performance functional inkjet inks, N. Devos - Chemstream (BE)***
The design of high performance nano-dispersions is key for the manufacturing of pigmented as well as functional inkjet inks. A broad range of UV-, solvent- as well as water-based ink properties (color, fluorescence, refractive index, electric conductivity, magnetic, ...) can be obtained by dispersed nanoparticles. Stable low-viscous nano-dispersions with controlled particle size and narrow particle size distribution are mandatory to reach consistent printing performances and can only be obtained by combining advanced milling technologies with tailored polymeric dispersing agents. Chemstream has developed a very potent methodology for the design, synthesis and evaluation of new polymeric dispersing agents. In this lecture we will elaborate on the smart molecular design of polymeric dispersing agents and how this has been applied in the development of both UV- as well was water-based inkjet inks in demanding applications.

25. **Si-Technology, innovative textile functionalization, M. Brito – Smart Inovation (nanoscale empowerment) (PT)**
Smart Inovation is a Portuguese nanotechnology company that offers innovative solutions for the functionalization of different materials in the scope of health, well-being and protection. Unique and innovative, the Si Technology is patented in 147 countries and offers multiple applications for multiple industries, products and materials. The Si Technology consists of a matrix o nano/microparticles that can be fixed to different substrates and transport active ingredients, providing materials with unique added-value properties and characteristics. The particles are made of silica (Si) and therefore have no toxicity or environmental impact. The same happens with the active ingredients used, which are non-toxic, ecofriendly, and WHO, FDA and EPA approved. The Si Technology currently offers solutions to be incorporated in textiles, paint, varnish, laminates, ceramics, cement, artificial grass, cork and other materials.
Our products are sustainable functional finishes for textiles that provide antimicrobial and insect repellent protection with high efficacy and over 100 washes durability. These are used as key-strategic tools for the prevention of hospital-acquired infections, odour control on the treated material, and also prevention of Malaria, Zika and other vector-borne diseases.

26. **Material set for smart healthcare applications, S. Gillissen – Henkel (BE)**
Key words: *wearable healtcare – smart diapers and health patches*

27. **Recycled Polyvinyl Butyral for textile coating applications, C. Graßmann - Niederrhein University of Applied Sciences (DE)**
The high-performance thermoplastic polymer polyvinyl butyral (PVB) is commonly known for its use as interlayer in laminated safety glass in windshields for cars. During car recycling huge amounts of this polymer

accumulate. The properties of the recycled polymer resin are different from these of pristine PVB due to additives and associate materials from the recycling process. However, it is impossible to re-use the recycled polymer in safety glasses. Therefore, other applications for the recycled material are investigated. One is the replacement of polyvinyl chloride coatings in the textile industry. Multi- and monofilaments of polyester (PES) and polyamide 6.6 (nylon) were coated with aqueous recycled PVB dispersions. As PVB is soluble in organic solvents, a blocked isocyanate crosslinking agent was used to get more chemically stable polymer structure. The mechanical properties of the coated yarn are influenced by the crosslinking agent: tear strength and maximum elongation increase with the amount of crosslinking agent. In a next step, the coated filaments are used in weaving experiments as weft yarn to proof their application in outdoor applications, such as textile sun screens, as well as in protective clothing. Above that, the UV-absorbance of recycled PVB coatings on PES fabrics was investigated with UV absorbing agents. The transmittance of UV light was decreased and especially with organic blocking agents UV-light was blocked out completely.

28. **Coated flexible multi-sensory array for wound monitoring applications on textile, W. Deferme – Univ. Hasselt (BE)**
Smart wound dressings on textiles could inform about the real-time wound status, the wound closing and infections and helps to keep record of the wound healing history of that particular patient. Further it helps to avoid many repeated dressings, stress on the wound, frequent hospital visits, nursing time, wastage of dressing material and so on. The emergence of printed electronics opens up the possibilities to print the sensors and other devices on textiles (among others) which has the promise to be low cost, flexible and wearable. Printed electronics is an interdisciplinary research domain and it uses different printing and coating processes to deposit functional materials to form fully functional devices and circuitries. For wound dressing applications, the specificity and sensitivity are critical for the sensors, whereas the lifetime and response time however are less critical which favours the low-end electronics. The requirements and properties which are put forward by the wound dressing and characteristics of the printed electronics meet together to a new paradigm of developments in the health monitoring.