Still searching or already stitching again?

San Antonio, Texas
3rd November 2016
Needle Quality Management

Ideal Needle Handling (INH) in the 21st century
Agenda

1. Current situation in the apparel industry
2. Previous handling of sewing machine needles
3. Needle Quality Management (INH) in the future
4. How to implement an INH-process?
5. Summary
1. Current situation in the apparel industry

The apparel industry today faces a wide array of challenges, for example:

- Increased cost pressure, need for high productivity
- Maximum of occupational health and safety
- Different environmental aspects
- Strict compliance of regulations
- Different methods (Lean Production, Kaizen, 5S)
2. Previous handling of sewing machine needles

**Strict regulations from international brand owners and buying houses**
- Strict regulations for broken/damaged needles
- Prevent needle parts remaining in the sewn fabric
- Monitor needle consumption
- Enhance productivity

**No uniform standard**
- Each single brand owner and buying house has its own regulations
- Regulations are often not interconnected → gaps can occur in the process

**Very high effort**
- Needle exchange station, different practices for needle exchange, the needle storage and needle disposal → high time and work effort
- Needle breakage? → result: production bottlenecks
3. Needle Quality Management (INH) in the future

What a Needle Quality Management needs to offer:

- Trouble-free, time-saving handling of broken and damaged sewing machine needles
- Reducing risk of needle contamination
- Helping to optimize the carbon footprint
- Increasing the productivity
- Reducing work-in-progress
3. Needle Quality Management in the future

**Handling of needles**
- Individual creation of a process
- Taking into account all previous operating procedures
- Can be applied all over the world

**Environment**
- Every sewing machine needle (and its packaging) used in a factory leaves the facility complete and in a condition capable of recycling

**Occupational safety**
- Ensure the best possible care of sewing personnel and others who work with needles
- Encourage personnel to act self dependent

**Productivity**
- Reduce the amount of time and work involved in dealing with broken and damaged needles.
- Higher work performance
- Waste is reduced or even avoided
3. Needle Quality Management in the future

The basis of a Needle Quality Management (INH)

- An ideal Needle Quality Management (INH) needs to keep with the 5S and LEAN production methods, and with elements of Kaizen, in particular the different types of waste (Mudas).
- Consequently, an ideal Needle Quality Management (INH) is based on another muda: Unused expertise, which in this case must be made available by the needle supplier, as the institution that knows best about the material and mechanical features of its product.

In order to develop an ideal Needle Quality Management (INH) the following 7-Point-Principle should be applied:

1. Definition of objectives
2. Utilization of internal knowledge and resources (needle supplier and customer)
3. Utilization of external knowledge
4. Review of the existing regulations of brand owners and buying houses and definition of these as the minimum target
5. Elaboration of the process by the needle supplier
6. Provision of tools, work equipment and training facilities by the needle supplier
7. Continuous inspection, improvement and development of the process, tools and work equipment as well as training by the needle supplier.
3. Needle Quality Management in the future

An ideal Needle Quality Management (INH)

- describes the *individual and customized* definition of a process for handling sewing machine needles in sewing plants.

This includes

- Storage of needles
- Issue to production
- Procedure used for needle exchange
- Procedure to be used in the event of a needle breakage
- Way of the needle and its packaging out of factory for recycling
3. Needle Quality Management in the future

How to define the Ideal Needle Handling (INH) for the individual factory?

- The introduction of an Ideal Needle Handling procedure in a factory starts with an analysis of requirements
  → Review of the current procedure with regard to the handling of sewing machine needles
- Considers the operating procedures of the brand owners and buying houses
- Considers 3 application stages: INH Secure („secure the existing“), INH Balance („find the right balance in between all the requirements“), INH Environment („strive for maximum protection of the environment“)
4. How does an INH-process come into being?

To the process in three steps:

1. Analysis of the existing value stream in the factory
4. How does an INH-process come into being?

To the process in three steps:

2. Generating the new value stream in cooperation with the factory and brand owner/buying house
4. How does an INH-process come into being?

To the process in three steps:
3. Selection of the required accessories
4. How does an INH-process come into being?

Example of a needle exchange trolley that is used flexibly on the factory floor.
4. How does an INH-process come into being?
4. How does an INH-process come into being?

Example of a needle collection box for secure disposal of used needles.
4. How does an INH-process come into being?

Example of an ideally organized needle stock within a trolley
4. How does an INH-process come into being?

Tools for a quick needle exchange made available at the machine.
4. How does an INH-process come into being?

Hanger system for storage of broken needles and recycling bin for empty needle packaging.
4. How does an INH-process come into being?

Recycling bin for empty needle packaging.
4. How does an INH-process come into being?

Magnetic broom for easy collection of needle parts from factory floor.
4. How does an INH-process come into being?

Used needle storage sheets
4. How does an INH-process come into being?

Used needles and empty packaging recycling cylinders
Fifo-Shelf-CLIVE*

FIFO-needle shelf

*Computerized Lean Intelligent Vending Equipment
SMART INH

Outlook

- SMART INH

- Internet of things will become "Internet of sewing"

- due to pending patent topic
  more information in individual meetings
5. Summary

- An ideal Needle Quality Management (INH) closes the gap between existing processes and the regulations to be adhered to.
Thank you very much for your attention!