Using tech packs

Sample room operations

International Labour Organization

Factory Improvement Toolset

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Printed in Thailand

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Factory Improvement Toolset

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT has been developed to be a sustainable, time- and cost-efficient option for supporting factories to enhance productivity through improved business practices and working conditions. FIT focuses on areas of production improvement and actions to be taken specific to each participating factory. It can be utilized as stand-alone learning tools or to complement other training programmes.

With each module lasting no more than 2.5 hours, FIT enables factories to train personnel, whilst minimizing interference with production realities. The easy-to-use methodology makes it possible to rapidly scale the implementation to reach a large cohort of trainees across multiple production facilities.

Working in small groups, participants review real-life situations and engage in discussions to determine improvements to be made in factory without an external trainer or specialist. This self-facilitated, activity-based and highly participatory learning approach positions participants as both student and teacher and makes the toolset self-tailored to the needs and interests of each group.

About this module

The FIT module on Using tech packs is a training for garment manufacturers to improve merchandising and sample room operations. Participants will work on using tech packs, specification sheets and making trim / swatch cards. This module takes about 2 hours to complete.

Upon completion of the training, participants should have:

- Discussed and understood the full sampling process.
- Learnt the importance of tech packs for sampling and production.
- Discussed how to use tech packs and specification sheets to ensure quality.
- Learnt how to make good trim cards and how to use them in the factory to ensure quality.

Guidelines for successfully using the training tool

Read out-loud

The FIT tool is designed for participants to take turns reading the instructions in the modules out loud to the group. At least one member of the group should be selected in the beginning of the session to take this responsibility.

Work as a group

Always work in groups of 5-7 during a FIT session. The programme will not be successful if participants work independently or do not collaborate with each other.

Be active

Encourage everyone in the group to actively contribute to the discussion. Ensure that no group member dominates the discussion or does not participate at all.

Monitor the time

Select one member of the group to monitor the time for each activity and remind the group when it is time to move to the next exercise.

Complete the action plan

Complete the action plan at the end of the session. This will help ensure that FIT results in improvements in the factory. Review the plan a while after the session to make sure that actions in the plan has been completed accordingly.

Icons

A set of icons is used throughout the modules to provide easy to recognize reference points for different tasks within each session and activity.

Read out loud
One member of the group should read out loud to the rest of group.

Knowledge link
Knowledge and skills are linked to other FIT learning resources and support.

Time allotted
Indicates how much time each sessions and activity should take.

Supplies needed
Indicates that supplies may be necessary to complete the session.

Begin step-by-step instructions
Indicates that the step-by-step instructions for an activity are beginning.

Think about it
Indicates additional information for the participants to think about.

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Measuring your performance

Measuring operational efficiency is a key aspect of running a productive factory. The box(es) below guides you in understanding which measurement indicator(s) can be used to measure and evaluate the performance of your factory in relation to the topics covered in the FIT series on sample room operations.

Indicator 1	**Average sample turnaround time (Hours)**
Definition	The average number of hours that it takes for you to produce a new sample (for a new style). It can also be calculated in hours.
Purpose	To understand how efficient your sampling and pattern-making operations are, and begin to identify how you could improve efficiency.
Calculation	Simply record the number of hours it takes to make each new sample (for a new style), then calculate the average at the end of each month.
Frequency	Calculate monthly.
Responsible	Sample room manager / Master sample maker

Indicator 2	**Sample hit rate (%)**
Definition	The proportion of samples that you get right the first time (that are accepted by the buyer the first time) over a period of time – not including style changes by buyers.
Purpose	To understand the quality of your counter samples and pattern-making processes, and begin to identify how you could improve quality. The closer to 100% the better.
Calculation	(# samples right the first time / total # samples made) x 100%
Frequency	Calculate monthly.
Responsible	Sample room manager / Master sample maker

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Session 1

Business case study

Goals

Preparing you for the type of discussions you will have with other group members throughout the learning module and understanding the benefits of being exposed to different perspectives.

Understanding better why making good use of tech packs is important in the factory.

Session 1
Overview

One member should read the full session out loud to the rest of group

15 minutes

Learning manual, pens, markers and poster paper

A business case study presents a real-life situation for learners to reflect on and discuss with other group members. By discussing the case, students learn from others' ideas and perspectives, and develop an understanding of the topic at hand within the workplace.

One group member reads the case study out loud

The whole group discusses the case study

Everyone develops a deeper understanding of the topic

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Activities

Case study

The case study below presents a situation that could happen in real life.

✎ Instructions:

1) As a group, listen to one member read the case study below while following along in your learning module.

Elda is a new sample room manager at the HS garment factory. She realizes that sample makers do not clearly understand how to read different tech packs and use the information in them to produce quality counter samples. They misunderstand content, or forget important details. As a result, counter samples need to be adjusted many times before the buyers give their approval. During production, tech packs are not shared with relevant departments. Workers feel that they lack the information needed to produce quality garments, and often make mistakes. This makes the factory lose time, and increases labour and material costs.

Elda makes several changes. First, she drafts a standard form that can be used to list all necessary sampling information. Merchandising fills it in using tech packs sent by buyers. Elda then works together with the quality team to draft quality inspection checklists. She also coordinates with Merchandising and the Storerooms to set up consistent trim cards, which are sent to the sample room for workers to refer to after approval.

Thanks to these changes, sample makers make better samples faster, and production departments obtain the information they need from the Master Sample Maker. Quality inspectors know what to look out for in each style. This makes sampling and production faster, and results in better quality garments.

2) Together, discuss Elda's situation by answering the three questions in table 1 on the next page.

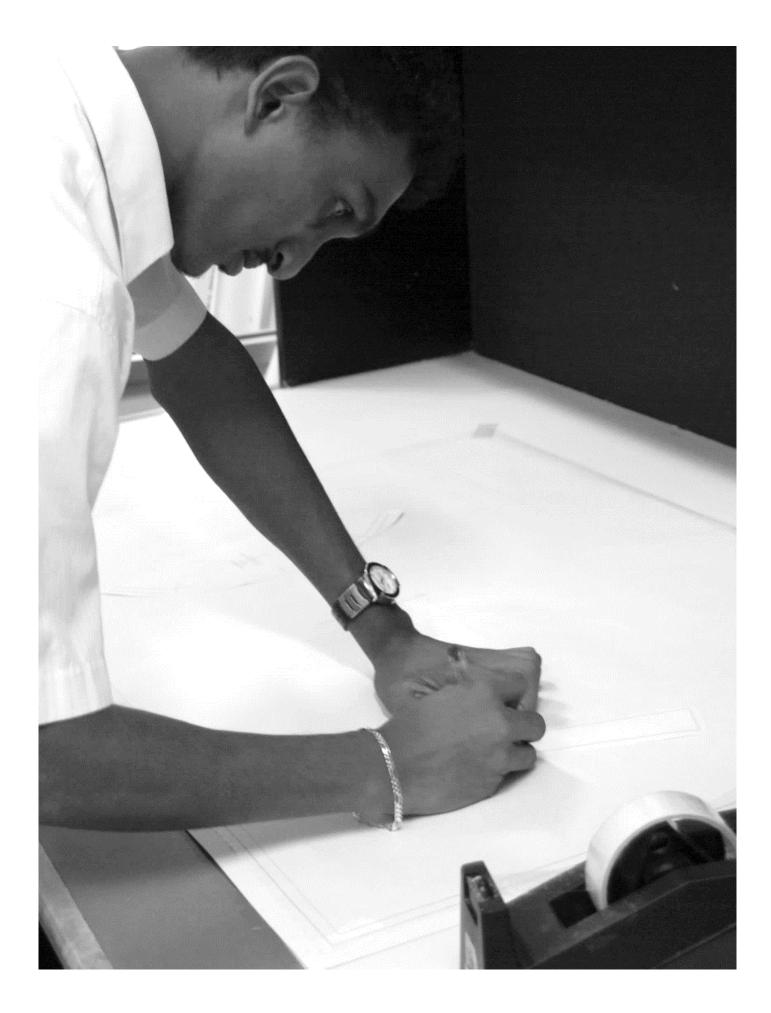| Table 1. Questions about Elda's situation |
| --- |
| 1. What problems has Elda identified? What impact do these problems have on the factory and its workers? |
| 2. What do Elda and other departments do or change in order to solve these problems? |
| 3. What are the results of Elda's solutions for the factory and its workers? |

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blank and can be used for note taking.

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Session 2

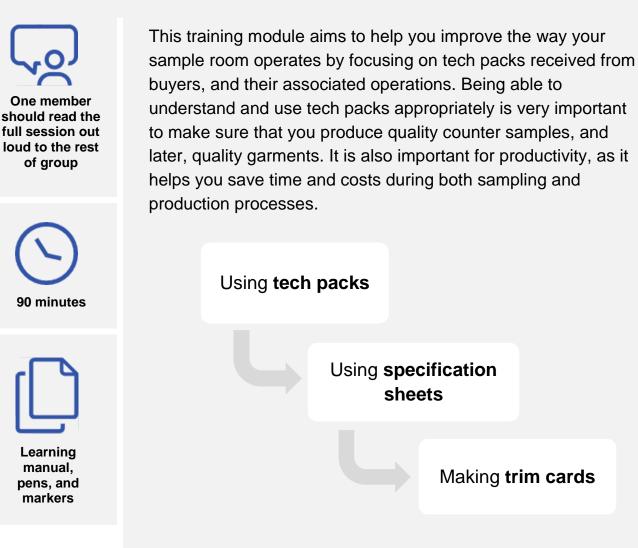# Learning about the topic

Goals

Discussing and understanding the sampling process.

Discussing what tech packs are, their content and importance, and how to use them to ensure quality.

Learning more about specification sheets, their use, and their importance for sample quality.

Learning how to make and use trim cards for production.

Session 2
Overview

One member should read the full session out loud to the rest of group

90 minutes

Learning manual, pens, and markers

This training module aims to help you improve the way your sample room operates by focusing on tech packs received from buyers, and their associated operations. Being able to understand and use tech packs appropriately is very important to make sure that you produce quality counter samples, and later, quality garments. It is also important for productivity, as it helps you save time and costs during both sampling and production processes.

Using **tech packs**

Using **specification sheets**

Making **trim cards**

First, you will start by reviewing the sample room process in your factory, then discuss tech packs and specification sheets, how to use them, and their importance for quality. Then, you will learn how to make and use trim cards based on tech packs.

Activities

The sampling process

The **sampling process** involves several steps, from receiving tech packs from the buyer, to issuing pattern boards to the relevant departments. In this activity, you will discuss the sampling process.

✏️. Instructions:

1) Together, think about your <u>Pattern-making</u>, <u>sampling</u>, and <u>marker planning</u> activities. Then, discuss:
   - In which department is each activity taken care of?
   - Who is responsible for each of these three activities?

2) Together, read through the steps of the pattern-making & sampling process in table 2, and put them in the right order from 1 to 12. Solutions are provided at the bottom of the page.

3) Have a participant read aloud the text box below. Then, together, discuss: Does your sampling process involve the same steps as in table 2? What is different?

4) Together, discuss: Based on table 2, is there anything you could change to your sampling process to make it more efficient? Write down your improvements in table 3.

💡 **The pattern-making and sampling process** may vary from one factory to the other depending on where and by whom it is carried out. In smaller factories, pattern-making and sampling can be done in the same department, called either pattern-making, or sampling department. Marker planning is best done in the cutting room (or CAD room if you have a CAD machine), in coordination with Merchandising.

🔗 To learn more about **marker planning**, ask your facilitator for the "Marker planning" and "Ensuring marker efficiency" modules!

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Table 2. The sampling process	
Steps	**#**
The counter sample is sent to the buyer for approval.	
Pattern boards are developed in one base size, then in all sizes.	
The counter sample is checked for fit, then base patterns are corrected accordingly.	
Pattern boards are approved by the sample room manager (or quality manager). He/she places "Original" and "Approved" chops and his/her signature.	
The base pattern is graded, and a sample size set (e.g. S, M, L, XL) is developed.	
A base pattern is developed in one base size (e.g. M).	
The Pattern Maker calculates consumption and seeks approval from Merchandising for fabric consumption.	
The counter sample is approved by the buyer, who signs on it.	
Specification sheets (tech packs) and samples are received from buyers.	
Based on the buyer's comment, the counter sample is adjusted until the buyer approves.	
Based on the base pattern, a counter sample is developed (with the actual fabric or a similar fabric).	
One set of pattern boards is stored in the sample room (master board set). A second set is issued to the cutting room (pattern board), and one set of marking / finishing boards is issued to the sewing line(s).	

Table 3. My sampling process

List your ideas for improvements below.

Tech packs

A **tech pack** is a document sent by the buyer that contains every detail of a style. It helps you understand the style and make a quality counter sample. In this activity, you will discuss why tech packs are important, their content, and how to use them.

Instructions:

1) Together, discuss the three questions in table 4.

2) Together, read through the list of what a good tech pack can contain in table 5, and put a ✓ in the column on the right if the tech packs you usually receive contain this information.

3) Together, discuss the following questions:
   - Based on table 5, is there any information that you wish your buyers would include in their tech packs? Circle it in the table.
   - How could you and your buyer work together to make tech packs better and easily understandable?

4) Together, brainstorm: How can tech packs (including specification sheets) be used to ensure quality during the production process? Write your ideas in table 6.

Table 4. Using tech packs
1. Why is it important to be able to understand and use tech packs well?
2. How can it help you and the buyer save time and costs?
3. Do sample makers directly use tech packs in your factory? Or do they use another document (such as a specification sheet)?

Tech packs received from buyers can be very different from each other, which can be confusing for sample makers. To overcome this, Master sample makers or Merchandising clerks can transfer the tech pack's information to a standard form. That way, sample makers know where to find the information that they need and confusion is avoided.

	Table 5. Contents of a tech pack	
Item	**Description**	✓
Garment construction	Type of seams, needle size, thread size, stitches per inch (SPI), special remarks if applicable.	
Specification sheet	Measurement chart for all sizes.	
Fabric information	Fabric construction, weight, fibre content, relaxation time, etc.	
Trims details	List of trims and placement of trims on the garment.	
Print and embroidery	Design to be printed / embroidered and its placement on the garment.	
Process requirements	List of further processes if needed, such as washing or dyeing, and instruction for those processes.	
Label information	Main label (brand logo), size label, care instructions labels, and fibre content label.	
Packing instructions	Information on how to fold and pack garments, where to attach tags and how to, type of bag to use, dimension of carton, packing ratio, etc.	

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The content of the tech pack may also depend on which operations are carried out in your factory (for example, it may not include packing, print and label information if you do not take care of these activities). If you find that any information is missing in the tech pack, don't assume, contact the buyer to verify instead.

Table 6. Tech packs & quality
How can tech packs be used to ensure quality during the production process? Example: To make an inspection checklist.

Master sample makers are responsible for drafting inspection checklists based on the tech pack, together with the quality team (if there is one).

Specification sheets

Specification sheets are an important part of the tech pack. They mainly contain the measurement information necessary for you to construct samples. In this activity, you will learn more about specification sheets and how they should be used.

✎ Instructions:

1) Have a participant read aloud the text box below and make sure everyone understands.

2) Together, look at the example of a specification sheet in table 7, and discuss: Does this sheet give you all the information needed to help you make a good counter sample?

3) Together, discuss the following questions:

- Do you usually receive specification sheets? What information do they usually contain?
- Could anything be added to them to make sure they cover all necessary / useful information, and make them easier to use?

4) Together, read through the list of good practices for using specification sheets in table 7, and put a ✓ in the column on the right if you do these things in your factory.

Specification sheets should contain the sketch of a specific garment design, together with important information such as measurements for all sizes and all points of measurement (POM), seam allowances, special comments, etc. Sometimes, they also contain folding, labelling, packing instructions, or others.

To learn more about how to make counter samples, ask your facilitator for the "Making counter samples" module!

Table 7. Using specification sheets

Apparel Tech Pack — www.onlineclothingstudy.com

Style No.	Description.	Collection	Category	Created by	Date
FMPRNM001	H/S Crew Neck Tee	SS-15	Men	Abc	11/6/2014

Garment Measurement Sheet

Measurement set: 01 UOM: CM (Note: Measurements are not approved. Ensure to use approved measurement for bulk)

Code	NAME	XXS	XS	S	M	L	XL	Allowance (+/-)
A	LENGTH OF BACK ON CENTER	48.00	51.00	54.00	58.00	62.00	66.00	
B	LENGTH OF SHOULDERS ON BACK	31.00	32.50	34.00	36.00	38.00	40.00	
C	1/2 WIDTH OF CHEST	37.00	39.00	41.00	44.00	47.00	50.00	
D	1/2 WIDTH OF BOTTOM	37.00	39.00	41.00	44.00	47.00	50.00	
E	1/2 WIDTH OF SLEEVE 2 CM UNDER ARM HOLE	13.50	14.50	15.50	17.00	18.50	20.00	
F	1/2 WIDTH OF BOTTOM SLEEVE	12.50	13.00	13.50	14.20	14.90	15.60	
J	LENGTH OF SLEEVE FROM 1/2 NECK HOLE	28.00	30.00	32.00	34.00	36.00	38.00	
M	WIDTH OF NECK HOLE	15.90	16.20	16.50	17.00	17.50	18.00	
N	DEPTH OF BACK NECK HOLE	2.50	2.50	2.50	2.50	2.50	2.50	
O	DEPTH OF FRONT NECK HOLE	6.10	6.30	6.50	6.80	7.10	7.40	
P	HEIGHT OF COLLAR / RIB WIDTH	2.00	2.00	2.00	2.00	2.00	2.00	
Q	1/2 MINIMUM NECK HOLE WIDTH, AFTER STRETCHED	26.50	27.00	27.50	28.20	28.90	29.60	
S	LENGTH OF SLEEVE FROM SHOULDERS	12.50	13.75	15.00	16.00	17.00	18.00	

Good practices ✓

1. For washed garments, do not forget to incorporate fabric shrinkage in patterns if it has not been specified in the specification sheet.

2. For non-washed garments, do not forget to incorporate sewing allowances if they have not been specified in the specification sheet.

3. Post the specification sheets on the relevant sewing line board(s) so that all workers who need them can access the most up-to-date information.

4. Put one copy of labelled specification sheets into a clear box or plastic folder so that workers can refer to it. Make sure it is not taken away by workers.

5. Make sure the quality control unit also receives the specification sheet.

6. Train all concerned workers on understanding and using specification sheets.

7. Store specification sheets in Excel/Word/PDF format as well so that they can be tracked and shared easily between departments.

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Trim / Swatch cards

A **trim card** shows all the trims and fabric swatches needed for a style based on the tech pack. It can be sent by the buyer or made in the factory (by the Stores or by Merchandising), then used by production departments to identify the correct trims and swatches. In this activity, you will learn more about how to make and use trim cards.

✎. Instructions:

1) Together, discuss:

- Do you use trim cards in your factory? If so, who is responsible for making them (which department)?
- To which departments are trim cards distributed? Do you receive one for new styles in the sample room?
- Why are trim cards important to ensure good sample quality?

2) Together, look at the list of departments which may need a trim card in table 8 (left column), and link each to their correct way of using trim cards (right column). Solutions are at the bottom of the page.

3) Together, look at the example of a trim card form in table 9, then discuss: Do you use such forms in your factory?

4) Together, read the steps for making a trim card in table 10, and put them in the right order by writing a number from 1 to 10 in the right column. Solutions are provided at the bottom of the page.

💡 Sample makers have a strong responsibility to help **ensure quality** during both sampling and production processes. This is why they should coordinate closely with merchandising, the production and the quality teams, for example during pre-production meetings.

Table 8. Using trim cards

Department		How to use?
Merchandising		1. To verify that the correct trims and fabric get issued to the production rooms.
Sample room		2. To display on the production board of the sewing line for the sewers' reference.
Storerooms		3. To send to the buyer for approval as part of the production file.
Sewing lines		4. To identify the correct trims and fabric in order to make counter samples and size sets.
Quality team		5. To draft an inspection checklist and conduct all quality inspections (in-line, finishing, etc.).

Table 9. Trim card forms

TRIM CARD			
Style #:		Buyer name:	
Item: Code:	Item: Code:	Item: Code:	Item: Code:
Stick here	*Stick here*	*Stick here*	*Stick here*
Item: Code:	Item: Code:	Item: Code:	Item: Code:
Stick here	*Stick here*	*Stick here*	*Stick here*
Item: Code:	Item: Code:	Item: Code:	Item: Code:
Stick here	*Stick here*	*Stick here*	*Stick here*
Approved by:		Date:	

Solutions: Sample room, 4.; Stores, 1; Sewing lines, 2.; Quality, 5.

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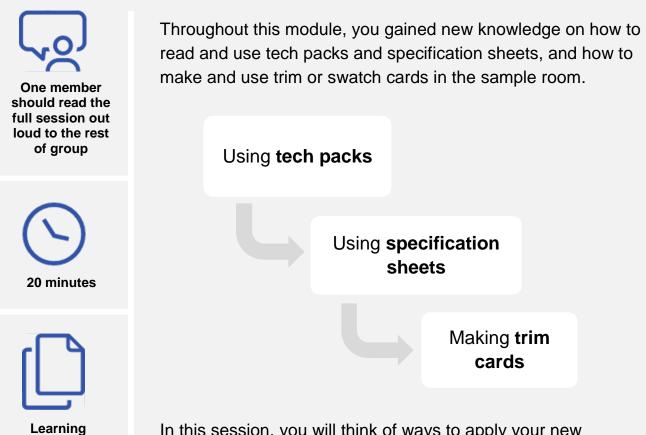| Table 10. Making trim cards	
Steps	**#**
Cross-check and get the trim card duly approved.	
Attach each trim to the card (in the pre-printed squares) using a stapler or tape.	
Have all trim cards duplicates approved by the Head of Merchandising or the Storerooms manager.	
Send the trim card to the buyer (as part of the production file) for approval.	
Make a list of trims to be attached to the card based on the tech pack and once the items for the order have been received.	
Once approved, stores clerks / merchandising assistants make as many duplicates as needed to hand out to the relevant departments.	
Write down the name of each item and its code number under or above each.	
Hand out duplicates to the relevant departments.	
Take a sample of each from the stores after materials are received.	
Take a trim card form (pre-printed thick board – size of A3 / A paper or larger as appropriate), write down buyer name, style name and order number on the top.	

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Session 3

Action items

Goals

Summarizing and revising the new knowledge gained.

Identifying concrete applications of the new knowledge that benefit your factory.

Session 3
Overview

One member should read the full session out loud to the rest of group

20 minutes

Learning manual, pens, and markers

Throughout this module, you gained new knowledge on how to read and use tech packs and specification sheets, and how to make and use trim or swatch cards in the sample room.

Using **tech packs**

Using **specification sheets**

Making **trim cards**

In this session, you will think of ways to apply your new knowledge to improve the way you use tech packs for sampling and production purposes by reviewing best practices and drafting your own action plan.

Specification sheet and trim card templates are available online for you to print out and use in your own factory. To obtain it, contact your factory's FIT coordinator!

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Activities

Best practices checklist

In this activity, you will review best tech pack use practices as a next step for evaluating your own and implementing improvements.

✏️. Instructions:

1) Together, look at the list of best practices in table 11, and put a ✓ in the column on the right if you use these practices in your factory.

Table 11. Using tech packs	
Best practices	**✓**
1. Tech packs are translated into standard, consistent documents that can be easily understood by sample makers.	
2. Communication is maintained with the buyer to ensure that tech packs are comprehensive and easily understandable.	
3. Sample room workers are trained in reading and using specification sheets to construct samples.	
4. Tech packs and specification sheets are used to ensure quality throughout the sample-making and garment production processes.	
5. Trim cards are made using a consistent process and sent to buyers for approval before production starts, then used during the production process.	

Your action plan

In this activity, you will think of ways to apply your new knowledge to improve your use of tech packs by drafting your own action plan.

Instructions:

1) Together, fill in the action plan (table 12) on the next page. Identify a key problem that you want to solve and write down the solutions you identified while working on this module.

Table 12. Using tech packs – Action Plan				
Problem identified				
Solutions identified	**Action(s) to be taken**	**Person responsible**	**By when?**	**How will improvements be measured?**

Using tech packs

The Factory Improvement Toolset (FIT) is an innovative self-facilitated, activity-based learning approach designed by the International Labour Organization (ILO) to create more decent and sustainable employment. FIT supports manufacturers in global supply chains to improve productivity, competitiveness and working conditions by upgrading production systems and factory practices.

FIT is being piloted in Asia under the regional Decent Work in the Garment Sector Supply Chains in Asia project funded by the Government of Sweden.