



Inspiring Excellence

## **Internship report on**



**BRITISH AMERICAN  
TOBACCO**

# **“Critical Analysis of Autonomous Maintenance deployment at British American Tobacco Bangladesh”**

### **Submitted to**

Jubairul Islam Shaown

Lecturer

BRAC Business School

BRAC University

### **Submitted by**

Sajida Hasnath

14104093

## Letter of Transmittal

March 05, 2018

Jubairul Islam Shaown  
Lecturer,  
BRAC Business School  
BRAC University

**Subject: Submission of term paper for completion of course.**

Dear Sir,

This is to inform you that I have completed the internship report on British American Tobacco Bangladesh. The paper focuses on the organization as a whole including a newly established project called autonomous maintenance deployment for module 18, the process of the project, steps and importance of the plan, my part as an intern and some recommendations. This project paper has given me an exceptional experience that might have immense uses in the future endeavors and I sincerely hope that it would be able to fulfill your expectations.

I have put my sincere effort to give this report a presentable shape and make it as informative and precise as possible. I thank you for supporting and helping me throughout this period and guiding me thoroughly.

Sincerely yours,

Sajida Hasnath (14104093)

## Letter of Endorsements by the Supervisor faculty

March 05, 2018

Dear Concern,

I am writing regarding the internship report on “Critical Analysis of Autonomous Maintenance deployment at British American Tobacco Bangladesh” done by Sajida Hasnath, ID:14104093.

I’d like to express my support for this report and my conviction that this research will be worthwhile. I have been her supervisor throughout this period.

I hereby, endorse Ms. Sajida Hasnath for completing this report.

Sincerely,

Jubairul Islam Shaown  
Lecturer  
BRAC Business School,  
BRAC University

## Acknowledgment

To begin, I would like to thank our Almighty for giving us the ability of putting together this term paper.

Secondly, I would like to express my thanks to my faculty supervisor, Mr. Jubairul Islam Shaown for helping me in writing the term paper and also for guiding us in every stage throughout the internship period.

I would also like to acknowledge with much appreciation on the great help given to me by my supervisor Mr. Mohammad Farid Uddin, Cell Manager, SMD, BATB who gave me all the information required for my better understanding of the department and also about the company as a whole. I would also like to thank my line manager Muhammad Faiyaz Bin Sajjad, Maintenance Lead and Md Tahmidul Bari Faiaz, Process Lead, SMD Operations. They have been very helpful in letting me know about the different aspects of BATB and particularly about the department and the project I mainly worked in. They have provided me with the relevant data I needed to complete this report. I also want to thank Md Jawwad Sadiq, IWS Process Lead, for providing me with resources to understand the project more closely.

I have tried my level best to provide a good understanding of this project in this report and I thank all the sources from where I have been able to get the information required for this report.

Thank you.

## **Executive summery**

British American Tobacco is one of the most renowned multinational business firms in the world of Tobacco industry as well in the market of Bangladesh. After starting operations in Bangladesh, over few decades BAT has been relentlessly bringing new, innovative and world-class products to satisfy the customer of each market segments. At the very beginning I have given an outline of the tobacco industry of Bangladesh, my objective of preparing this report. I have showed the BAT history through a timeline. From the beginning to till now, the important events regarding BATB are shown in the report. I have also presented the whole outline of the factory with the machines and equipment details. I have thoroughly explained about Autonomous maintenance with its steps and importance. Autonomous maintenance (AM) is performed by the operators and not by dedicated maintenance technicians. It is a crucial component of the Total Productive Maintenance (TPM). The core idea of autonomous maintenance is to provide the operators with more responsibility and allow them to carry out preventive maintenance tasks. Autonomous Maintenance is the daily act of keeping the equipment operationally healthy. The tasks and practices required to maintain equipment health requires highly skilled individuals utilizing standard work processes. The seven steps of Autonomous Maintenance serially build this skill over time. I have also discussed my work experiences at BATB and some challenges of this project. I have tried to put my learnings and experiences in words at BATB.

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## Organization Overview or Profile of the Organization:

### History

#### **1902**

The British American Tobacco Company was formed by the joint venture of UK's Imperial Tobacco Company and the American Tobacco Company of the United States. Company's first chairman was James 'Buck' Duke.

#### **1904-1911**

A huge expansion was seen by developing markets in the West Indies, India, Ceylon, Egypt, Holland, Belgium, Sweden, Norway, Finland, Indonesia, East Africa and Malaya.

#### **1910**

Cigarettes sales exceeded 10 billion per year.

#### **1911**

The company was listed on the London Stock Exchange for the first time.

#### **1915**

Within 5 years the sales total was increased to 25 billion cigarettes per year.

#### **1927**

On the year of their 25<sup>th</sup> anniversary, they became one of the UK's leading companies, with 120 subsidiaries.

#### **1939**

The occurrence of the Second World War rigorously interrupts global operations.

#### **1942**

Profits that were static at £5.5 million right through the misery go down to £3 million until the war ends

#### **1949**

Pakistan Tobacco Company was established after the partition of India in 1947. The first factory in the East Pakistan was setup in 1949 at Chittagong.

#### **1954**

PTC established its first cigarette factory in East Pakistan at Chittagong.



## **1964**

Second factory was built in Dhaka on Cantonment land.

## **1965**

The second factory of Pakistan Tobacco Company was setup in Mohakhali, Dhaka.

## **1972**

It became Bangladesh Tobacco Company Limited immediately after Bangladesh's independence.

## **1976**

BATB launched its first filter tipped cigarette, gold flake long size.

## **1991**

The Chittagong factory capacity was shifted to Dhaka.

## **1994**

The first hi-speed lines Passim- GDX2 complexes were introduced.

## **1998**

The Company changed its name and identity to British American Tobacco Bangladesh (BAT Bangladesh) aligning the corporate identity with other operating companies in the British American Tobacco Group.

## **2013-2015**

8 High speed lines added in SMD 2 and 3 units, raising capacity from 30 Bin in 2013 to 48 Bin in 2015

## **2015**

BATB snitch the passion for Excellence, Manufacturing Regional Award.

It is thought to be an ideal organization for the application of the knowledge that a student acquires during his/her four years of undergraduate life. BAT Bangladesh is a part of British American Tobacco plc, one of the world's internationally ran businesses, with brands sold in about 200 markets around the world. Because of diverse preferences of consumer's high-quality tobacco are made in BAT, spanning the business from crop to consumer BAT is committed in embedding the principles of corporate social responsibility worldwide. They are one of the first companies to be listed on the Dhaka and Chittagong Stock Exchanges along with that BAT is also ranked among the top 10 companies in the sector of market capitalization. British American Tobacco Group holds 72.91% of the total company's shares; 12.86% is owned by Investment Corporation of Bangladesh; Shadharan Bima Corporation, Bangladesh Development Bank Limited, Government of People's Republic of Bangladesh and a further 14.23% is owned by other shareholders.

British American Tobacco Bangladesh strives to be responsible to their shareholders, employees, business partners or any other relevant internal and external stakeholders. To them, responsibility is a way of life with a moto of 'success and responsibility go together'. Employing more than 1,500 employees directly and approximately 50,000 people indirectly as farmers, distributors and local suppliers, they take great pride in saying that BAT Bangladesh is one of the most preferred employers in Bangladesh. It is the people, who bring their different perceptions every day and make BAT Bangladesh a great workplace.

## Vision

World's best at satisfying consumer moments in tobacco and beyond.

## Satisfying Consumer Moments

They believe that by being the world's best at satisfying consumer moments, they will sustain their leadership of the industry. Consumers are at the core of everything they do and their success depends on addressing their evolving concerns, needs and behaviors.

## Tobacco and Beyond

The second part of their vision – tobacco and beyond recognizes the strength of their traditional tobacco business and the opportunities they see in Next Generation Products. This is a great

potential business opportunity because consumers are looking for choices and product categories in which they are uniquely placed to succeed.

## Mission

Delivering the commitments to society, while championing informed consumer choice.

## Champion Informed Consumer

Choice they need to continue to ensure that their adult consumers are fully aware of the choices they are making when they purchase the products. they recognize that they have a responsibility to offer a range of products across the risk continuum, but they will also defend people's right to make an informed choice.

## Deliver the Commitments to Society

As society changes and priorities and needs shift, they are ready to meet new challenges and take advantage of new opportunities. They are a major international business and with this status comes responsibilities such as developing less risky products, being open about the risks of all they products, supporting agricultural communities in leaf-growing areas worldwide and minimizing the impact on the environment.

## Strategic Focus Areas

The foundations upon which our strategy is built have been in place for many years, but we continue to refocus our activities in all four areas and constantly review our ways of working.

### Growth

Developing brands, innovations and new products to meet consumers' evolving needs.

### Productivity

Effectively deploying resources to increase profits and generate funds for investment.

### Winning Organization

Ensuring we have great people, great teams and a great place to work.

### Sustainability

Ensuring a sustainable business that meets stakeholders' expectations.

## Introduction

### Rationale:

This report reflects three months' internship program which is mandatory to get graduated from BRAC University. To be a graduate I needed to complete 4 credits which is allocated for my internship and I am lucky that I got a chance to work for British American Tobacco where I gather experience on operations management department. I got explore the volatile business world being a part of country's one of the most fast-paces organizations. This report is basically prepared on my three months' internship experience that I gathered from serving BATB to meet the requirements of BRAC University. This report will emphasis more on a project called Autonomous maintenance deployment as I was lucky enough to be a part of this project.

### Background:

British American Tobacco (BAT) is one of the pioneer cigarette manufacturers in the world. It is renowned for its very fine global tobacco and Next Generation Products, with more than 200 brands sold in market. According to (Baghil, 2013) the marketing process create sense of belonging between brand and consumer. BATB has a successful brand marketing strategy based on sound consumer insights. It is driven by their International Brands – Benson & Hedges, John Player Gold Leaf and Pall Mall.

BATB's portfolio of a good number of international as well as local brands is designed to meet a broad array of consumer preferences around the country with the idea of delivering today and investing for tomorrow.

## Brands

### Benson & Hedges

Since its launch in 1997, Benson & Hedges has dominated the Premium segment and set the standards in a very competitive market. And in 2012, the house of Benson & Hedges launched a new and unique variant - Benson & Hedges Switch. Keeping innovation at its core, Benson & Hedges Switch became the first ever capsule cigarette to be launched in Bangladesh.

## John Player Gold Leaf, Pall Mall and Capstan

John Player Gold Leaf, Pall Mall and Capstan are positioned in the Aspirational Premium segment.

- Launched in 1980, John Player Gold Leaf is one of the highest selling brands of the company, enjoying large market share in the Aspirational Premium segment.
- Pall Mall was the Group's first Global Drive Brand to be launched in Bangladesh in 2006.

## Star

Star and Star Next are positioned in the VFM segment. Star was launched in 1964 and Star Next was launched in 2012. The brand has absolute leadership in the segment with a robust performance. Pilot, Hollywood and Derby We have three brands in Low Segment – Derby, Pilot & Hollywood.

- Derby was launched in 2013 and is the biggest brand among the three, offering taste differentiation to the consumers through its two variants.
- On the other hand, Pilot offers true and authentic smoke to the consumers. Pilot was launched in 2009 and at present it is the fastest growing brand in the industry.
- The third brand is Hollywood which was launched in 2011.

## Objectives:

Overall objective of this report is to fulfill the requirements of BUS400 course by preparing and submitting report on autonomous maintenance deployment at BATB.

## Specific objectives:

- Gaining an overall knowledge about this ongoing project and how this works and how this will help BATB in a long run.
- The steps they are taking for this project and how I worked to contribute to this project is also being highlighted in this report.
- Analysis of the whole project in some steps and some data and figure related to this.

- The objective is to get an overall idea about how this idea is implemented and working at the company.

### Review of Related Literature:

SL	Source	Publisher	Year of publication
1	<a href="https://www.mobility-work.com/blog/autonomous-maintenance-5-steps-to-successful-implementation">https://www.mobility-work.com/blog/autonomous-maintenance-5-steps-to-successful-implementation</a>	Marc Antoine Talva	May 29, 2016
2	<a href="https://www.industryforum.co.uk/resources/articles/autonomous-maintenance/">https://www.industryforum.co.uk/resources/articles/autonomous-maintenance/</a>	Industry Forum	September 9, 2013
3	Autonomous Maintenance Pillar Guidebook	P&Gs	2015
4	BATB annual Reports	BATB	2014,2015,2016

## BATB Factory Layout:

BATB has their own manufacturing company at Mohakhali, Dhaka. It has Primary manufacturing department and Secondary manufacturing department (SMD). The secondary manufacturing has two part SMD1 and SMD2 and it has 29 running modules. The SMD factory layout is given here,

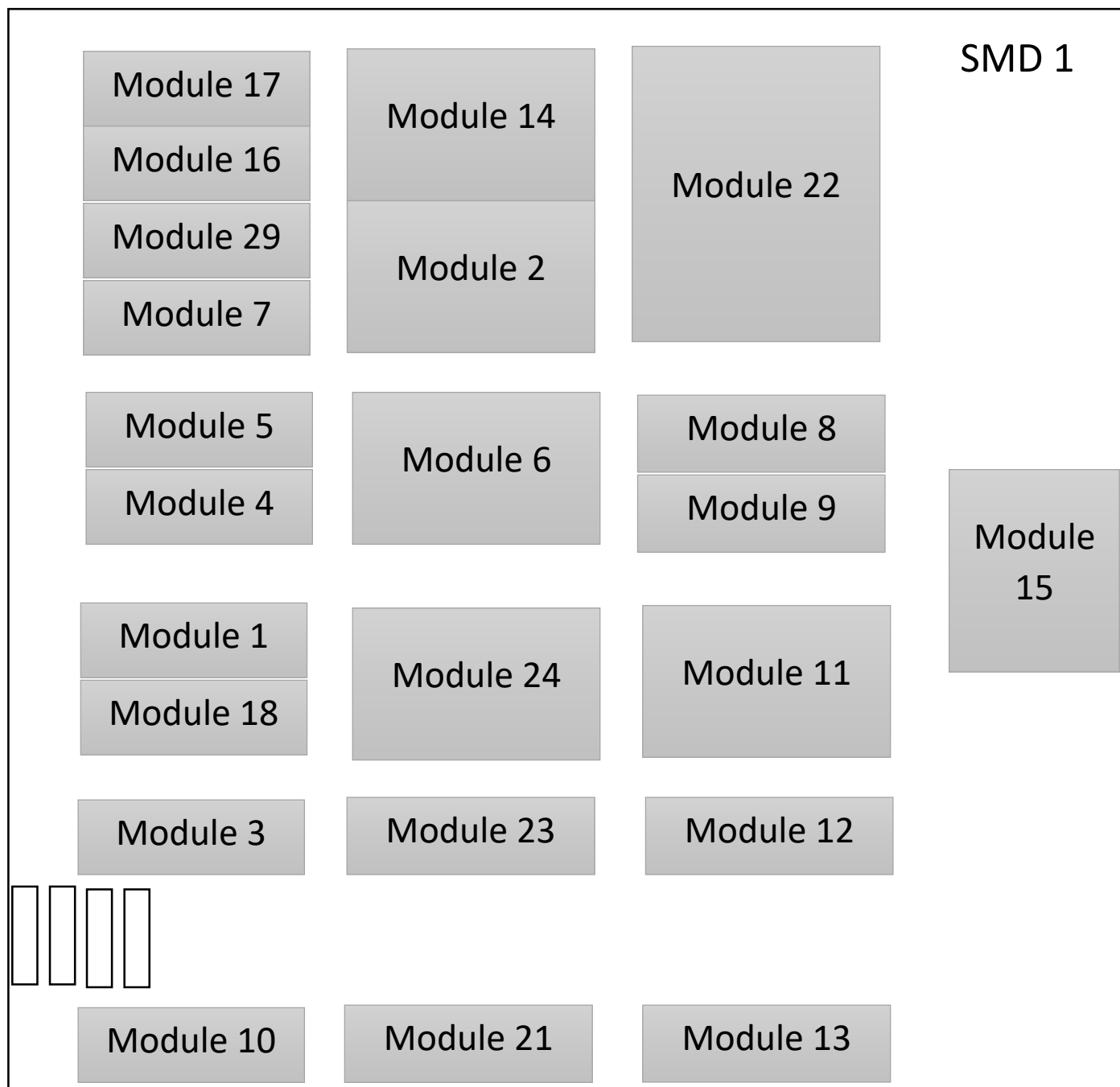


Chart 1: SMD 1 factory floor layout

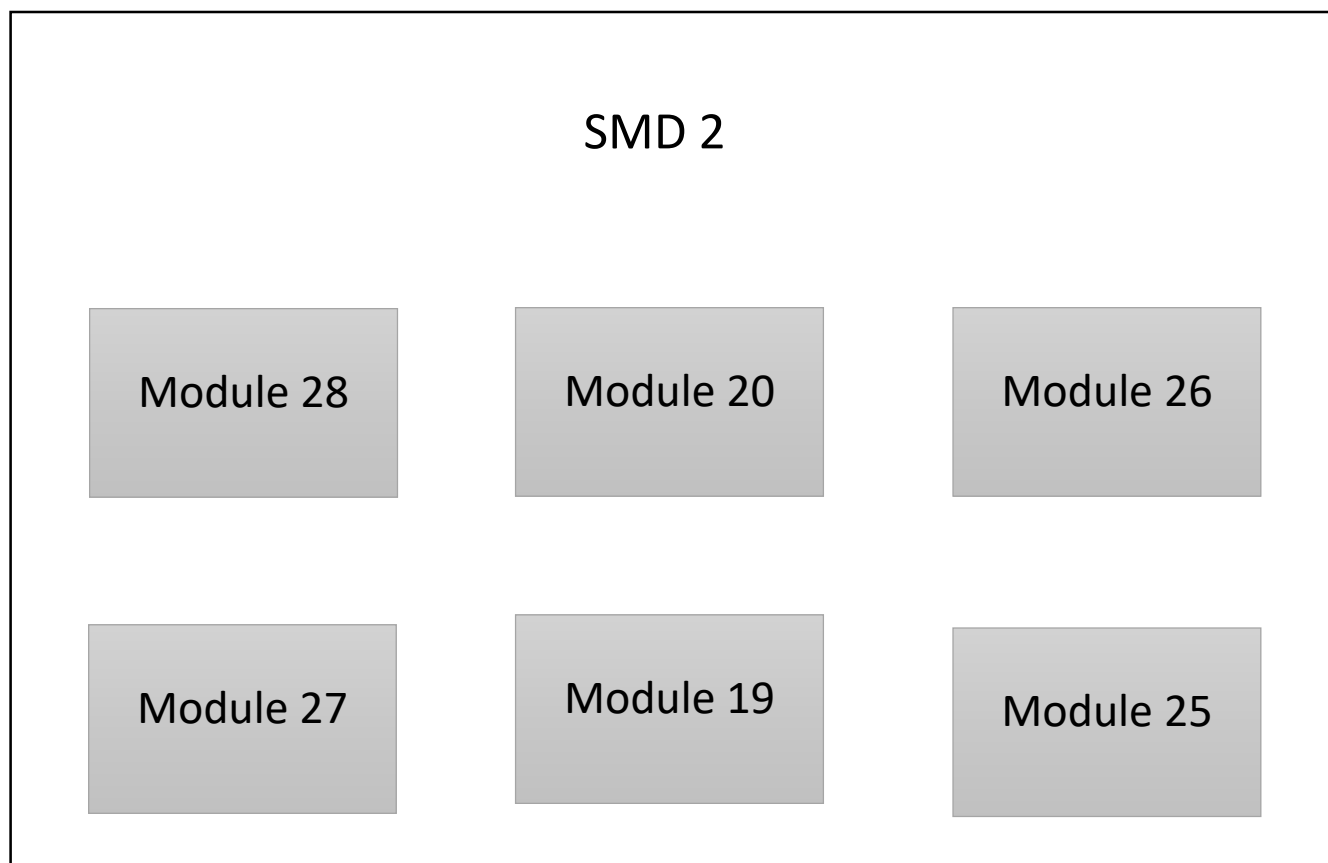


Chart 2: SMD 2 factory floor layout



### Machines details:

There are 29 running modules in SMD1 and SMD2. Every module has a maker and packer.

<p>Module 1:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GDX2 NV</li> </ul>	<p>Module 9:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GDX2</li> </ul>
<p>Module 2:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GDX2</li> </ul>	<p>Module 10:</p> <ul style="list-style-type: none"> <li>• Maker – Protos100</li> <li>• Packer – GDX2</li> </ul>
<p>Module 3:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GD</li> </ul>	<p>Module 11:</p> <ul style="list-style-type: none"> <li>• Maker – Protos100ER</li> <li>• Packer – GDX2</li> </ul>
<p>Module 4:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D100</li> <li>• Packer – GDX2</li> </ul>	<p>Module 12:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GDX2</li> </ul>
<p>Module 5:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D100</li> <li>• Packer – GDX2</li> </ul>	<p>Module 13:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GD</li> </ul>
<p>Module 6:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GD</li> </ul>	<p>Module 14:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GDX2</li> </ul>
<p>Module 7:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D100</li> <li>• Packer – GDX2 NV</li> </ul>	<p>Module 15:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90s</li> <li>• Packer – GDX2</li> </ul>
<p>Module 8:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> </ul>	<p>Module 16:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> </ul>

<ul style="list-style-type: none"> <li>• Packer – GDX2</li> </ul>	<ul style="list-style-type: none"> <li>• Packer – Focke</li> </ul>
<p>Module 17:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – GDX2NV</li> </ul>	<p>Module 24:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GD</li> </ul>
<p>Module 18:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle</li> <li>• Packer – GDX2</li> </ul>	<p>Module 25:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>
<p>Module 19:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>	<p>Module 26:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>
<p>Module 20:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>	<p>Module 27:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>
<p>Module 21:</p> <ul style="list-style-type: none"> <li>• Maker – Protos100</li> <li>• Packer – GDX2</li> </ul>	<p>Module 28:</p> <ul style="list-style-type: none"> <li>• Maker – Protos90ER</li> <li>• Packer – Focke</li> </ul>
<p>Module 22:</p> <ul style="list-style-type: none"> <li>• Maker – Protos100</li> <li>• Packer – GDX2</li> </ul>	<p>Module 29:</p> <ul style="list-style-type: none"> <li>• Maker – Protos100</li> <li>• Packer – GDX2</li> </ul>
<p>Module 23:</p> <ul style="list-style-type: none"> <li>• Maker – Decoufle 3D85</li> <li>• Packer – GD</li> </ul>	

### Autonomous maintenance:

Autonomous maintenance (AM) is performed by the operators and not by dedicated maintenance technicians. It is a crucial component of the Total Productive Maintenance (TPM). The core idea of autonomous maintenance is to provide the operators with more responsibility and allow them to carry out preventive maintenance tasks.

According to conventional maintenance programs, a machine can run until it breaks or reaches its maintenance date. The maintenance department is then responsible for handling/fixing it. In contrast, autonomous maintenance allows machine operators to carry out directly simple maintenance works (lubrication, bolt tightening, cleaning and inspection) to prevent breakdowns and react faster if a certain failure has been detected.

AM provides a different approach to the traditional methods of achieving production results. Companies worldwide have found the tools and techniques of AM to be a proven process for building the capability to eliminate losses. Even organizations with benchmark results have seen significant gains when implementing AM. This proven approach of AM includes built-in mechanisms for developing the high level of capability needed to achieve a zero defect operation.

### Aims of Autonomous Maintenance (AM):

Autonomous Maintenance is the daily act of keeping the equipment operationally healthy. The tasks and practices required to maintain equipment health requires highly skilled individuals utilizing standard work processes. The seven steps of Autonomous Maintenance serially build this skill over time.

## Autonomous Maintenance focuses on:

The overall aim of Autonomous Maintenance is to develop highly skilled production technicians and establish proper equipment conditions.

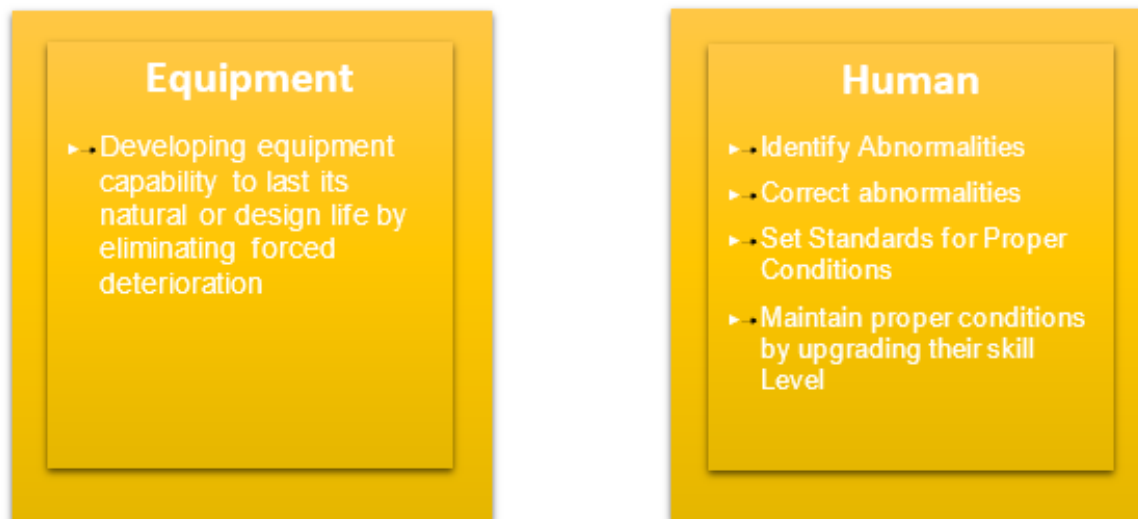


Chart 3: Two aspects of AM

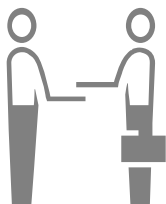
Equipment performance is measured using OEE (Overall Equipment Effectiveness), which has become an industry standard, based on the Availability, Performance and Output Quality of the equipment. These three factors are then broken down into Losses – Breakdowns, Changeovers, Minor Stoppages and Speed Loss usually being the largest contributors. Of these TPM identifies the major cause of Breakdowns, Minor Stoppages and Speed Losses etc.

On the other hand, to measure the skills of the operators is done by the daily reports of the losses, OEE and MTBF (Mean time between failure). If the reports are hitting the target and the machines work fine, it is considered that the operators are working properly. The maintenance and process leads and team leaders evaluate them and oversees their activities. There are some books, that the operators need to fill if any abnormalities accrue and by going through those logs, the leads get to know if the project is on track or not.

## Difference between Autonomous and Traditional maintenance

### Autonomous maintenance

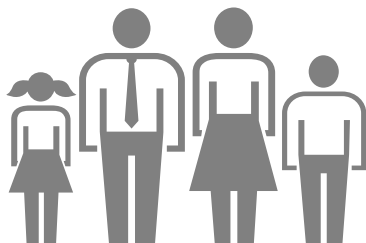
1. Operators go back to basics and begin learning equipment from bottom up.



2. Operators develop their own standards



3. Operators are expected to maintain the equipment at basic conditions – only high technical maintenance is done by a special group



4. Simplified systems – highly visually



### Traditional systems

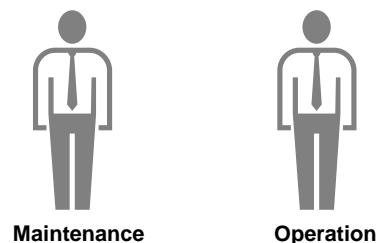
1. Operators are assumed to know their equipment



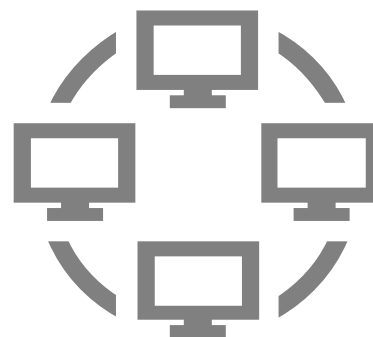
2. Standards are developed and passed down to the operators



3. Standards are developed and passed down to the operators



4. Complex systems – “brute force” required



## Why do BATB needs Autonomous Maintenance?

Many production systems are operating at high reliability today, yet they still have losses resulting in higher costs.

- ▶ The full capability of the people have not been tapped.
- ▶ The equipment is often in a deteriorated condition, or requires a lot of attention to maintain the results.
- ▶ The results are often brute forced, with no underlying daily system to sustain them.

Implementing Autonomous Maintenance can help address these gaps, as well as learn some of the basic IWS concepts such as:

- ▶ Leaders must first learn by doing, then teach by showing.
- ▶ The equipment needs to be brought to like new status. Restored before being improved, such that the forced deterioration is stopped.
- ▶ Operating teams must develop more in-depth understanding about the functions of their equipment and be able to recognize conditions that will lead to the elimination of defects, they will become “Expert Technicians”.
- ▶ The skill of everyone must increase to the point that they are interacting with other departments to ensure new processes and equipment have a defect free design.
- ▶ Individuals will reinforce their leadership and ability to work within teams by participating in small group activities.

## Twelve key-points of Autonomous Maintenance:

- 1 Education**

Conduct thorough teaching which includes orientation and lecture on AM concepts prior to commencement of autonomous maintenance activities.

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- 2 Fellowship**

Promote maximum cooperation among production-related departments as well as administrative departments. Managers must establish a support system for operator's efforts.

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- 3 Mandatory work**

All employees must recognize autonomous maintenance activity as mandatory part of operator's routine jobs. AM is daily work.

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- 4 Small team activity**

All activities must be developed based on small, natural work-groups.

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- 5 Leaders lead**

Front-line managers must take the lead and set an example to demonstrate how to develop forthcoming steps of autonomous maintenance program.

---
- 6 Education and Exercise**

Conduct thorough education and practice for operators without missing any minor opportunity.

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7

**Practice is the key**

Take breakthrough approach by way of thorough practice in order to attain Zero Accidents, Zero Defects and Zero Breakdowns.

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8

**Focused objectives**

Provide concrete objectives and targets for operators in terms of each AM activity, and encourage them to attain actual and effective results.

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9

**Operators ownership**

The standards must be set by those who must follow them.

---

10

**AM audit**

The autonomous maintenance audit makes the largest contribution toward encouraging and training AM groups.

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11

**Immediate response**

The maintenance department must quickly and promptly treat work orders from autonomous maintenance. Resources and other pillars must act quickly and integrate their work with AM.

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12

**Looking at details**

Be thorough in developing each step of autonomous maintenance programs. If an audit is unsuccessful, do not proceed to the next step in a hurry because of the schedule. When this happens, it is an indicator AM is not firmly implemented due to poor progress in technical knowledge and skills.

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7 steps of

Autonomous Maintenance:



- ▶ Step 0 Initial Preparation
- ▶ Step 1 Cleaning to find problems
- ▶ Step 2 Address sources of problems (contamination/hard to reach areas)
- ▶ Step 3 Establish cleaning, inspection and lubrication standards (CIL)
- ▶ Step 4 Equipment Component/Process Inspection (Define the zero loss state)
- ▶ Step 5 Address system problems
- ▶ Step 6 Address product quality problems
- ▶ Step 7 Practice continuous improvement

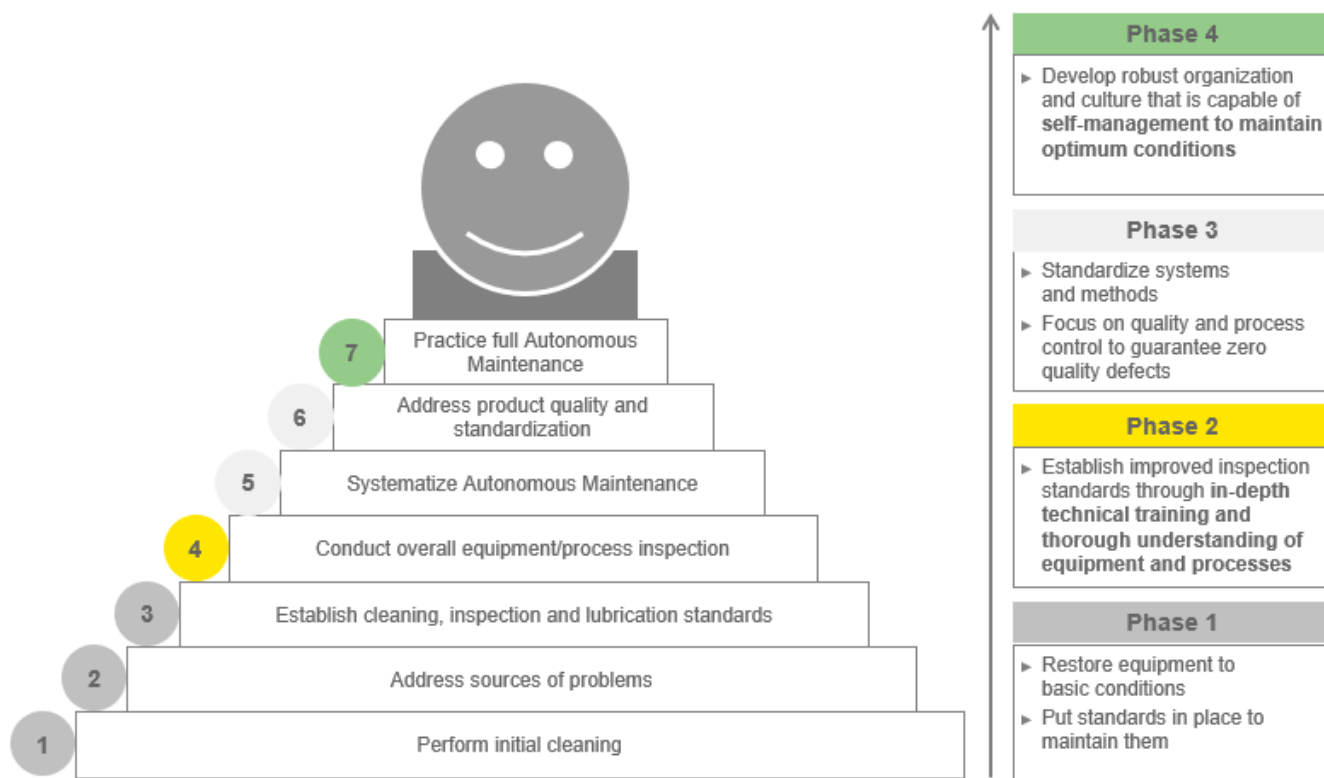


Figure 1: 7 steps of Autonomous maintenances

Within the AM Team on the floor Work Process, there are 7 Steps. These are the chronological sequence of activities that make up the AM Team Work Process. Each step has a specific objective linked to the overall aims of AM.

7 steps of Autonomous Maintenance in phases:

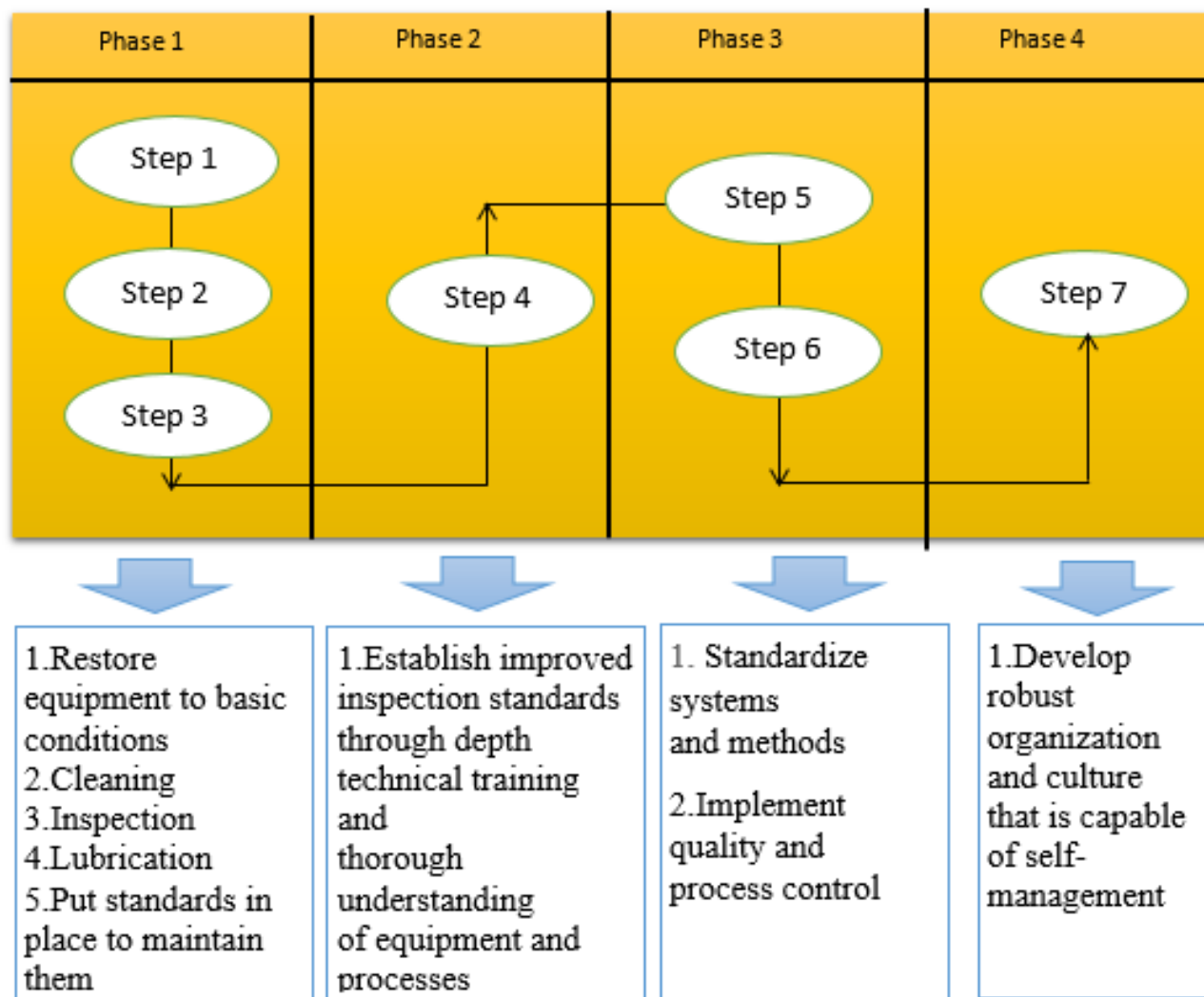


Chart 4: Phases of AM

Work experience:

Timeline:

Week 1: Assigned to one cell manager and two line managers. Mr. Mohammad Farid Uddin, Cell Manager, SMD, BATB. And Muhammad Faiyaz Bin Sajjad, Maintenance Lead and Md

Tahmidul Bari Faiaz, Process Lead, SMD Operations were my line managers. My first task was to understand the hierarchy of this department. Md. Tahmidul Bari helped me with the information and I got to know how this process works here.

Week 2-3: My cell manager showed me the factory and showed all the machines. He introduced me to the machines that is under his cell. He also introduced me to the operators of the machine. I observe the factory floor and got the idea of the machines and production. Since I was part of SMD hence this side of the factory mainly worked with the packaging of the cigarette and cigarette packets. They showed me the whole work flow and wrapping material.

Week 4-5: AM project was introduced to a module 18, a machine of a maker and packer. I was closely working with this module and the project. First task was to generate previous data and select one loss leader and train and to accustom them to this new project. They were given the training before this project was establish. A new board was set, and some books were give them for tracking the process.



Image 1: AM board

Week 6-8: The operators used to write down all the breakdowns, defects and CIL (Centerline) in the books and I needed to collect those from them and update these to the Excel file. With these data, the leads and cell manager used to sit together with the operators and discuss about the issues and ways to solve those. By this time, I learned to go to the operators and communicate with them about the logs they fill in. I had an idea how to deal the operators and how their mindset works.

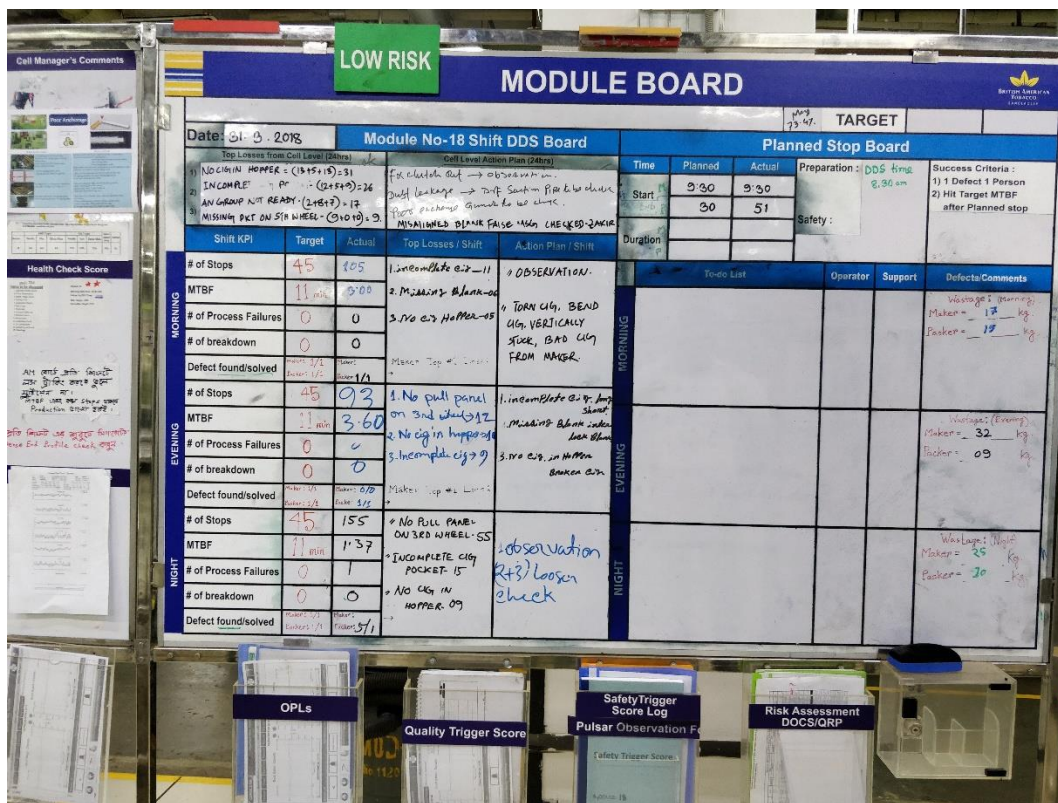


Image 2: Module board and log books

The management has selected team for its major 5 losses. This team includes one loss coach, loss leader and 3 equipment owners. All of them has different roles to play.





Image 3: Assigned members

Week 9-10: I was assigned to update a board called DDS (Daily Direction Settings). This was basically, the data about the production, top losses from OEE, total OEE and MTBF. This included the wastage of the machine too. So everyday all the operators, cell manager and leads used to do this meeting with these updated data and set the action and plans for the whole day. This meeting is done in the morning and in the afternoon, they used to do a follow up of this meeting to see if the plans and actions were taken. This was one of the major part I have learned from this internship period. Every module and cell had team leaders, who will observe the operators and see if there is any growth in them and if they are being able to detect the defects and solve the issues properly. The team leaders had an evaluation form for each operators and they used to update the tracker every week. I needed to update these on excel file as well.

Week 11-12: Last two weeks were the most exciting weeks. My supervisor sent me to meet an HR personal and asked me to talk to her about giving t-shirts to the operators. These t-shirts should indicate that the have achieved month long OEE target. I went to Ms. Savera Mizan, Corporate Executive of HR and asked for help. I had to tell her the whole idea and shared the t-shirt designs. I gave her the list of operators for the number of t-shirts we needed.

In the last two weeks, some students from Bangladesh University of Engineering and Technology came for industrial attachment as a part of their course. As an operation management intern, I was assigned to show them the factory, machines, production flow, wrapping materials, CIL timings, defect and breakdown handling process, basically almost everything I have learned in these 3 months. This helped me to enhance my management and leadership skills as I had to supervise 8 students for 2 weeks.

Overall, as an intern of Operations department, I got to learn things outside my specialization. I have gathered many experiences in these 12 weeks of time.

### Learning outcome and Observation:

In these 12 weeks, I have learned a lot about BATB, one of the world's internationally ran businesses, with brands sold in about 200 markets around the world. This is the first time I have seen how a multi-national company works. In the manufacturing company, I got to learn about the production process and consumers need regarding cigarettes. I have observed few things in my short span of time here. It was an incredible journey here at BATB in operations management department. It gave me a lot of learning opportunities through office and factory visit. This internship at BATB, has taught me some crucial things, which I will be able to apply in my life in the future.

- I got the first-hand idea about office management. Throughout our under graduation, we have learned about how multi-national companies work, and through this internship opportunity, I got to learn about the office culture very closely. BATB is thought to be an ideal organization for the application of the knowledge that a student acquires during his/her four years of undergraduate life. I was lucky to get this opportunity.
- Autonomous maintenance is very important specially for a production company. Production company needs equipment and these needs to be maintained and help to operation healthy. The tasks and practices required to maintain equipment health requires highly skilled individuals utilizing standard work processes. Being a part of this project for module 18, I have seen this module to step up from step 0 to step 1. To understand the growth of the people's capability, BATB has an audit card which they fill in initially and see the growth of the equipment owner's capability. They also observe the number of defects they receive every day. The idea is to see if the operators can find out the defects by themselves. I joined at BATB on

15<sup>th</sup> of January and the Autonomous maintenance deployment project started from 15<sup>th</sup> of January as well. So, the number of defects from January 16<sup>th</sup> to 31<sup>st</sup> March are 186. Whereas, the number was 71 from September 8<sup>th</sup> to January 14<sup>th</sup>. Which means, the operators are finding more defects than before now. Which means, the AM project has started to show its results.

- I have seen how a manufacturing company works very closely. BATB is in producing approximately 180 to 190 million cigarettes every day. They have different maker and packer machines and they have different capacities. But overall, the average production is about 185 million every day.
- I have gained people's skills by communicating with the operators. Every maker and packer has at least 2 operators each. They have different views and opinions. I have learned to communicate with them according to their perspectives. I have seen how one issue can be seen in so many ways.
- I have gathered knowledge how operators and managers sit together and try to solve an issue. From the working operators to the cell managers, they have such a friendly and respectful relation which helps the production achieving goals very easy. The managers talk to the operators about the issues and try to be as defect less as possible. This relation seems like one of the main factors working for achieving zero defect in future.
- I got to learn how setting a target in the morning and taking actions by the noon is important for the company. Daily Direction Setting (DDS) was one of the major learnings from my internship period as well. BATB is 24/7 production company and in the early morning, the managers and operators used to sit together and discuss the top losses and issues based on the previous day's data. They set an action plan based on that and go to work on the actions. And again, in the noon, they used to sit and see if the actions they had set in the morning, has been taken and worked properly. This meeting is very important to meet the daily target of the company.
- I have seen the managers giving ownership to the operators and this helped them to achieve the goals more efficiently. When the operators have been assigned to certain work and only been observed by their growth, it gives them the freedom to work by their own. I have seen the operators taking the ownership and the managers willingness to give them the opportunity as well. I believe this plays a vital role in achieving the daily target more efficiently.



## Challenges:

In my internship period and my involvement in Autonomous maintenance deployment, I have observed some challenges by talking to the managers and the operators as well. Such as,

- The first challenge of AM project is, it's a new culture and operators are used to the traditional culture where operators didn't have the ownership and used to get remuneration based on their working hours. But High-Performance Culture (HPC) suggests, the more efficient operators the more remuneration they get. Since it is a new culture and the workers are not used to this, it is difficult for the leads and managers to train them and position this into their minds.
- Previously, operators used to only run the machines but after the AM deployment, they are being trained and expected to find defects, understand the machines and try to solve the issue without the expert technicians. As this is a very new concept for the operators of Module 18, hence it will take time for them to get used to it.
- Training the operators who are already used to the traditional culture is the biggest challenge the managers say. Training them about the machines and loss areas and how to take the equipment condition to a better condition was a challenge. The managers and leads are working hard to train them properly as this is the base of the project.

## Conclusion:

British American Tobacco (BAT) is one of the pioneer cigarette manufacturers in the world. It is renowned for its very fine global tobacco and Next Generation Products, with more than 200 brands sold in market. To work such closely at this global MNC like British American Tobacco, has been truly an amazing experience for me. I got to learn things outside the things we have learned in our classes. I could relate to a lot of things from our courses as well. Besides, working in operations department has shown me some new aspects and gave me the chance to explore new avenues. BATB always encourages learning and that helped me to explore one of the biggest MNCs of our country.

Through this report, I have presented my work experiences throughout my internship period and about the major project I was lucky enough to be a part of. Autonomous maintenance gives an extra edge to any manufacturing company and hence, BATB is deploying this concept to its modules to go to the next level of its business.

## Reference:

1. Tonomous Maintenance: 5 Steps to Successful Implementation. (2016, 29 may). *Mobility work*. Retrieved from <https://www.mobility-work.com/blog/autonomous-maintenance-5-steps-to-successful-implementation>
2. (September 9, 2013). Industry forum. *Implementing Autonomous Maintenance*. Retrieved from <https://www.industryforum.co.uk/resources/articles/autonomous-maintenance/>
3. Autonomous Maintenance Pillar Guidebook. (2015),
4. BATB Annual reports, 2016. Retrieved from [http://www.batbangladesh.com/group/sites/BAT\\_9T5FQ2.nsf/vwPagesWebLive/DOAKQF5C/\\$FILE/2016\\_Annual\\_Report.pdf?openelement](http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOAKQF5C/$FILE/2016_Annual_Report.pdf?openelement)
5. First quarter Financial statement, 2017. Retrieved from [http://www.batbangladesh.com/group/sites/BAT\\_9T5FQ2.nsf/vwPagesWebLive/DOALYCAF/\\$FILE/First\\_quarter\\_financial\\_statement\\_2017.pdf?openelement](http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOALYCAF/$FILE/First_quarter_financial_statement_2017.pdf?openelement)