CREATING NEXT GENERATION OF MANUFACTURING CHANGE LEADERS

India is the fastest growing economy in the world with the benefit of a growing young population looking to get integrated into India’s workforce. However, there are following challenges and constraints in terms of industrial development especially in smaller towns;

1. The local industry (SMEs) deals with shortage of good engineers.
2. The local academia (engineering colleges/universities) trapped in traditional curricula and classrooms.
3. Low quality engineering students face a campus placement crisis.

In order to solve those challenges and create Manufacturing Change Leaders (MCL) with skill to contribute to the Indian industry, Visionary Learning Community of India (VLCI) has been launched in 2015.

OBJECTIVES OF VLCI

- Create a virtuous cycle of the industry, academia and engineering students
- Create a WIN-WIN relationship amongst 3 elements
- Build talents of next generation

LEARNING PROCESS OF VLCI

<table>
<thead>
<tr>
<th>LEARNING COMMUNITY</th>
<th>Qualified Experts</th>
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<tbody>
<tr>
<td>Local SMEs (Managers)</td>
<td>Local Academia (Faculties)</td>
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<tr>
<td>Engineering Students</td>
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</tbody>
</table>

- **STEP 1**
  Managers of local SMEs and faculties of local academia learn together under the supervision on qualified experts.

- **STEP 2**
  The local academia teaches engineering students with the support of the industry.

- **STEP 3**
  The skill of engineering students in the local academia is improved. As a result, the local SMEs recruit the trained engineering students.

FLAGSHIP PROGRAM UNDER INDO JAPAN TECHNICAL COOPERATION AGREEMENT

Confederation of Indian Industry (CII) and Japan International Cooperation Agency (JICA) have been implementing Visionary Leader for Manufacturing (VLFM) Program since 2007 under the guidance of Prof. Shoji Shiba and Mr. Takeyuki Furuhashi. Under the VLFM Program, the Visionary SME (VSME) has implemented, aiming at transforming the Customer-Supplier relationship to a “Win-Win”. The VLCI, led by Mr. Saideep Rathnam, is applying the accumulated experiences of VSME.

- **Prof. Shoji Shiba**
  Chief Advisor (Padmashree awarded)
  A world-renowned authority in leadership skills and techniques

- **Mr. Saideep Rathnam**
  Chief Instructor of VLCI
  Former Dean of Anand Corporate University and currently a visiting faculty at IIM-Bengaluru

- **Mr. Takeyuki Furuhashi**
  Chief Instructor of VSME
  One of world’s best experts on Flow Manufacturing
### HOW TO REALIZE “BIG F” SKILL

Sharing common language is key to success of the Learning Community so “BIG Factory (BIG F)” concept has been introduced. The traditional mindset is to view a factory as a set of machines operated by tools/methods and a set of standard operating procedures (SOP) driving that method “small factory (small f)”. In the modern context, however, manufacturing cannot and should not be so defined, since it is driven by much wider elements. Therefore, VLCI focuses on mindset change from “small f to BIG F”. This understanding is key to creating forward and backward linkages between the factory and the outside world.

### FROM “Small f” to “BIG F”

**INTRODUCTION**

Sharing common language is key to success of the Learning Community so “BIG Factory (BIG F)” concept has been introduced. The traditional mindset is to view a factory as a set of machines operated by tools/methods and a set of standard operating procedures (SOP) driving that method “small factory (small f)”. In the modern context, however, manufacturing cannot and should not be so defined, since it is driven by much wider elements. Therefore, VLCI focuses on mindset change from “small f to BIG F”. This understanding is key to creating forward and backward linkages between the factory and the outside world.

### THREE BREAKTHROUGHS OF VLCI

1. **Collaboration of local industry (SMEs) and academia (engineering colleges/universities)**
2. **Self promoted, self-financed, self-managed**
3. **Continuous stream of engineering students with knowledge & practice of “VSME Flow Concept”**

### HOW TO REALIZE “BIG F” SKILL

In order for the Learning Community to transform their mindset from “small f” to “BIG F”, VLCI provides following program. The program reinforces skill building by going back and forth between classroom and GENBA, contributing to creation of MCL.

### ALIGN WITH “MAKE IN INDIA” : RESULTS OF VLCI

VLCI has been implemented since 2015 and contributed to the development of SMEs and human resources in 5 areas. Scaling up of VLCI is planned in Haridwar, Satara, and Hosur, which will support Government “Make in India” and “Skill in India”.

**Partnership**

<table>
<thead>
<tr>
<th>Location</th>
<th>Year</th>
<th>Company</th>
<th>Local Academia</th>
<th>Participants</th>
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<tr>
<td></td>
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<td>Company</td>
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<td>Faridabad</td>
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**Developed Curriculum in Local Academia**

- **NMIET**: Nutan Maharashtra Institute of Engineering & Technology
- **GIT**: Gogte Institute of Technology

**Changes in performance of 7 SMEs before and after VLCI program in Dharwad**

- **Average of 7 SMEs**
- **Best result**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Before VLCI</th>
<th>After VLCI</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Productivity</td>
<td>2.4x</td>
<td>4.8x</td>
<td>+2.4x</td>
</tr>
<tr>
<td>Machine Efficiency</td>
<td>0.7x</td>
<td>1.4x</td>
<td>+0.7x</td>
</tr>
<tr>
<td>Delivery Performance</td>
<td>0.9x</td>
<td>2.0x</td>
<td>+1.1x</td>
</tr>
<tr>
<td>Raw Material Inventory</td>
<td>3.6x</td>
<td>4.7x</td>
<td>+1.1x</td>
</tr>
</tbody>
</table>

**Core Courses**

- Observe Deeply and Quickly
- Understand Factory Fundamentals (small f)
- Understand Linkages (BIG F)

**Elective Courses**

- Build Flow Design (Map) Skills
- Build Flow Execution (Heijunka) Skills
- Build Manufacturing Leadership Skills to become future MCL

**Accomplished/Ongoing VLCI Projects**