Zone Autonome de Production Valeo Thermique, LaSuze, France

Management challenges multiple-shift zone teams to meet improvement targets, and supervisors are more like coaches than order-givers. Together, employees strive for automation without waste.

Valeo Thermique is one division of Valeo Company, whose $3 billion in sales rank it second to Robert Bosch among European auto suppliers. The other seven divisions make lights, clutches, wipers, friction materials, starters, ignition systems, and locks. Valeo Thermique produces engine cooling systems (radiators) and heaters/air conditioners.

Valeo is an international company. Only four of Valeo Thermique Division's 13 plants are in France. The French plants produce 71 percent of sales, but half of division sales is outside France, so the French plants are exporters. Major customers include Renault, Peugeot, Fiat, and VW. Others are Benz, Ford, Chrysler, and GM. The biggest European competitor: Behr. Worldwide, Valeo Thermique has strong competition in the likes of Nippondenso, Nihon Radiator, and Harrison Radiator.

Valeo Thermique is in the fifth year of its JIT/TQC (Just-In-Time/Total Quality Control) journey at the LaSuze Plant, near Le Mans, France. The strategy of the LaSuze Plant is to be both a designer and builder of high-volume, low-cost radiators and heaters/air conditioners. The company does not wish to merely produce the designs of their customers. They prefer to design for both the end users of their products and for low-cost, reliable production.

Rapid start-ups and rapid product changeovers are also part of the LaSuze Plant charter. In May 1988, they began conversion of unused space (because of a change to cell production) to produce a new evaporation-type air conditioner. Equipment arrived in August. Production started in September.

Effective automation is part of Valeo Thermique's goal, and economical automation is more likely with higher volume production. They do not intentionally automate waste. The strategy is to reduce the vertical integration of production in total, but organize the remaining production in product cells, rather than by common-technology (process) departments. Material handling of large molded plastic parts is one of Valeo's major automation problems, for example. One answer is transferring large molded parts directly from the molding press to an adjacent assembly line, thus eliminating the intermediate inventory and several material handling steps.

Organization for Production

Valeo Thermique organizes production by product line. The basic building block is the Zone Autonome de Production (ZAP). Each zone is clearly marked off on the production floor, a territory to be administered by a team of 10–12 workers per shift. Each shift team is called a "Groupe Autonome de Production," or GAP.

The LaSuze Plant is in a rural area, so workers easily understand a zone as the field they are to work. The more sports-minded workers regard the ZAP as a playing field, and each GAP is the shift team that is playing on the field at the time. All the teams playing in the same zone obviously need to coordinate their effort.

All the GAPs (shift teams) responsible for the same ZAP are together considered a challenge group. Management challenges each ZAP with targets for improvement.

The primary response to the challenge is through "Développons Ensemble notre Force d'Initiative" (DEFI), groups of four to eight volunteers within each ZAP who function much as a quality circle. The DEFI study issues and make proposals. They make observations and suggestions. Sometimes they implement their own suggestions. See Fig. 2.

In addition, every worker within a ZAP can make suggestions through the Valeo Thermique "Idées d'Amelioration Réalisées" (IAR). Each ZAP is challenged to produce and implement as many IARs as possible.

Workers within each Zone Autonome de Production are responsible for:

1. Quality of output (primary responsibility)
2. Quantity of output (satisfy the customer—next operation)

Zones Autonome de Production (ZAP)

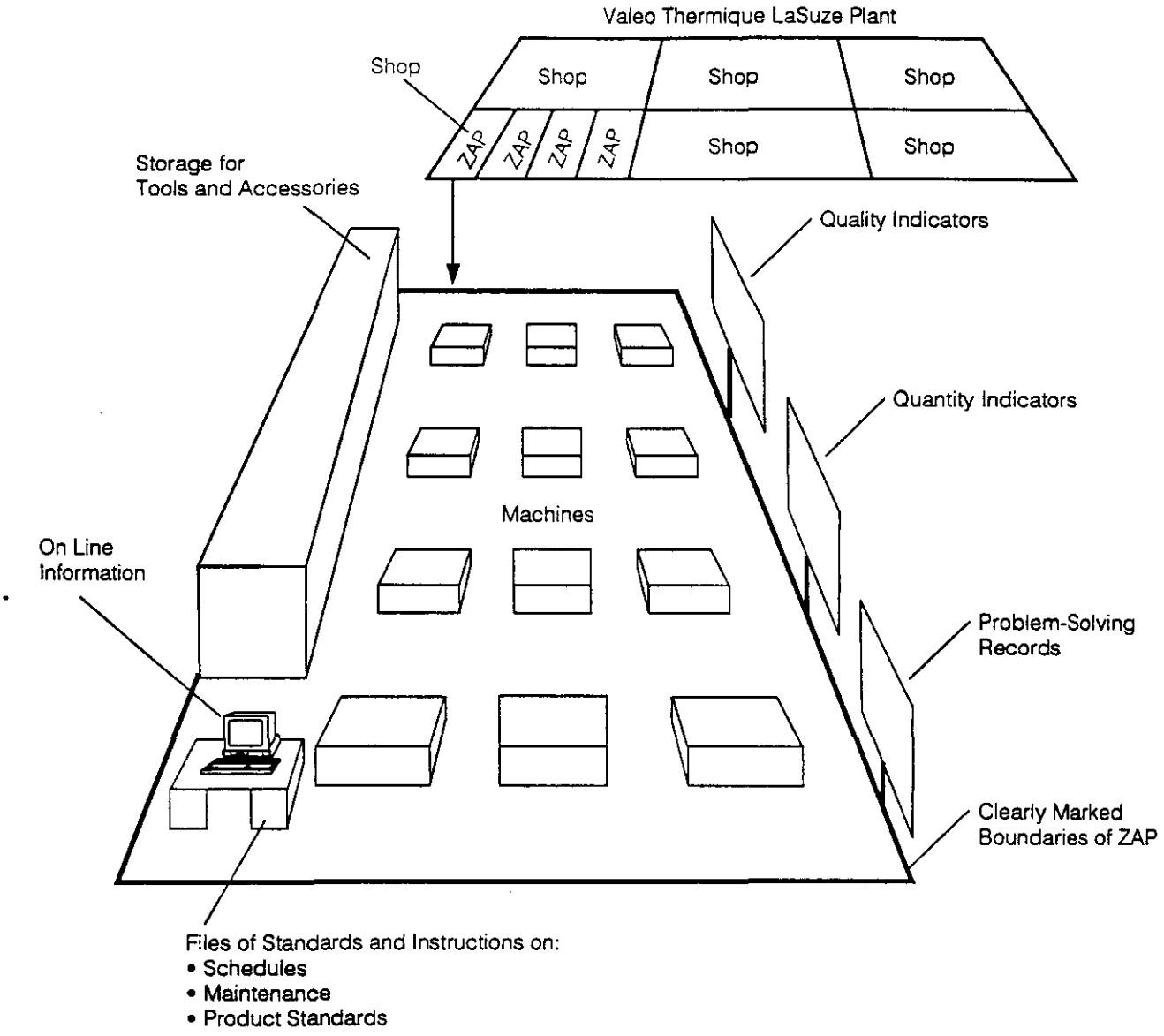


Fig. 1.

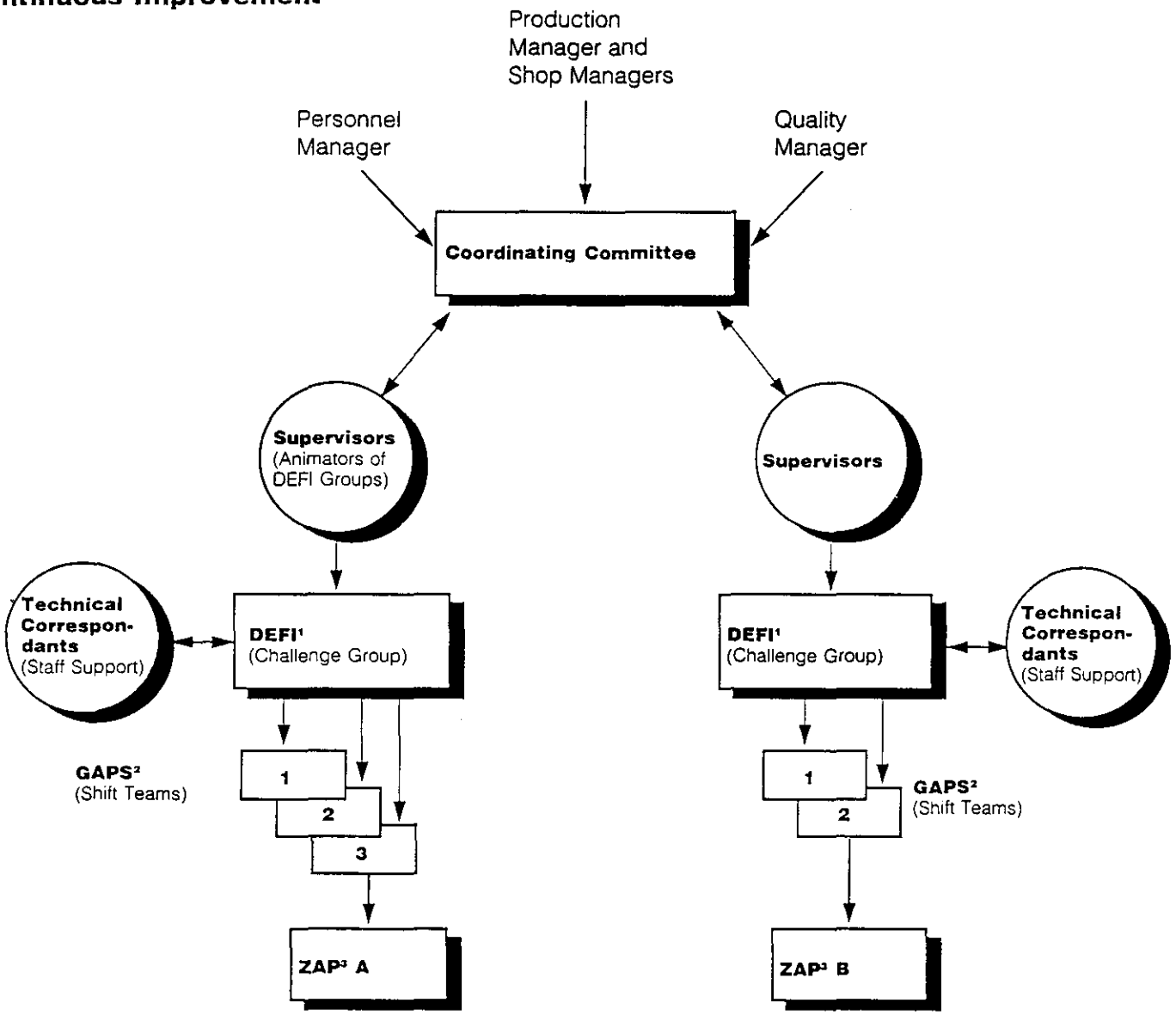
3. Setup of the equipment
4. Preventive maintenance
5. First-level tool and equipment repair.

To enable each zone to run itself autonomously, as intended, the workers need the means to do it. Each ZAP has both a quality bulletin board and a quantity bulletin board. Goals and progress are displayed on each. Each ZAP has a set of tools and maintenance materials in designated locations. They belong to the zone and should never leave it. Some zones also have a computer terminal which provides access to various files and programs, and the intent is to expand this capability to all zones.

Each ZAP is also supported by a matrix organization in the LaSuze Plant staff functions—a list of technical correspondents at their disposal. They came from manufacturing engineering, quality, maintenance, data processing, and logistique (a French word that covers production planning, receiving, material handling, etc.). In manufacturing engineering, for example, most engineers have one or more ZAPs to which they give primary attention as needed.

A single supervisor usually heads the GAP shift teams for several ZAPs. Each GAP (shift) is headed by a team captain, who is a lead worker. Supervisors function more as coaches than order givers. Each ZAP has people with several different capabilities and responsibilities: quality checking, maintenance, material handling, and so forth. ▷

Organization of Valeo Thermique LaSuze Plant for Continuous Improvement



¹**DEFI** =Developpons Ensemble notre Force d'Initiative, all the workers on all shifts associated with a zone or cell (ZAP). These workers are challenged as a group to strive for specific improvement objectives in their zone.

²**GAP** = Group Autonome de Production. One of the shift teams composing a DEFI group.

³**ZAP** = Zone Autonome de Production. The zone or cell for which a DEFI is responsible.

Fig. 2.

An example of a ZAP is an automated cell making heater cores, starting with raw material and finishing with a tested subassembly. Press work, tube bending, assembly, and testing are all done in the same ZAP. The customer for this cell is heating system assembly, which is another ZAP.

Valeo has been developing the concept of internal customers. The concept is clear in the production flow—the next operation is the customer. Now many staff members also have their performance rated by those identified as their internal customers—which in many cases are the supervisors of the Groups Autonome de Production.

Several ZAPs constitute a shop. Several shops complete a production line organization. Each product line organization has some staff support dedicated to it at the top so that a product line organization can operate almost autonomously.

Valeo Thermique believes that Zone Autonome de Production is the wave of the future in the organization for automation. They intend to be a major player in automating without waste. ⊙