OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.

DISCLAIMER

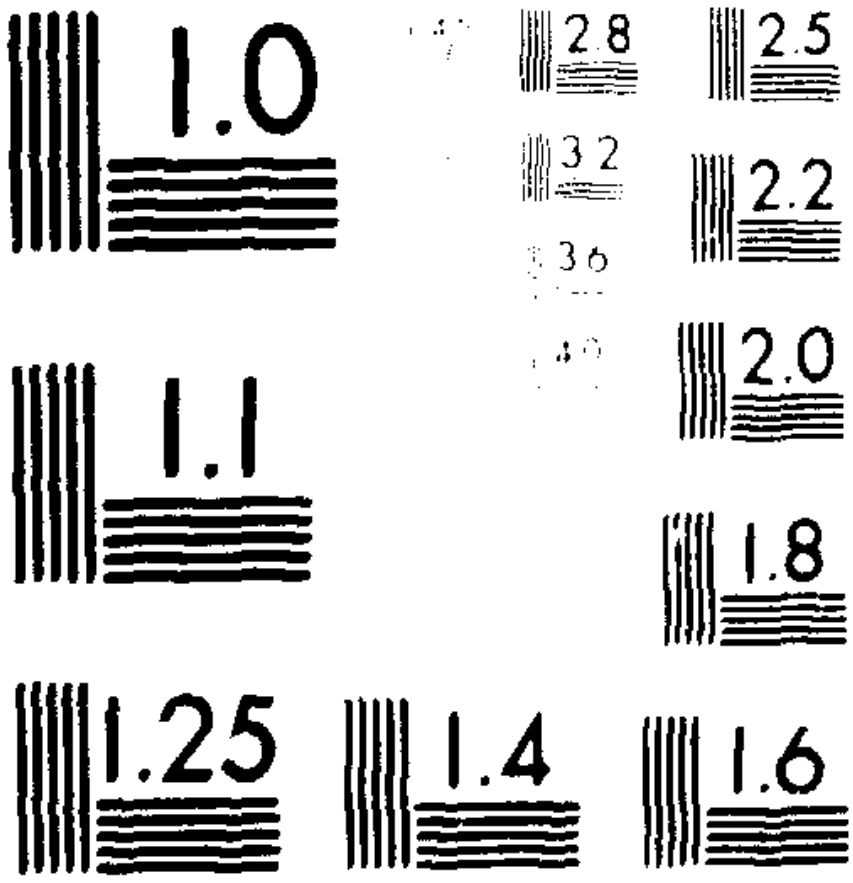
FAIR USE POLICY

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna International Centre, P.O. Box 300, 1400 Vienna, Austria
Tel: (+43-1) 26026-0 · www.unido.org · unido@unido.org



RESTRICTED

09492

DP/ID/SER.B/217
21 February 1980
English

ASSISTANCE TO THE TANNING AND SHOE INDUSTRY

SI/POR/79/801

PORTUGAL

Terminal report*

Prepared for the Government of Portugal
by the United Nations Industrial Development Organization,
executing agency for the United Nations Development Programme

Based on the work of Odd E. Birkhaug, expert

United Nations Industrial Development Organization

Vienna

* This report has been reproduced without formal editing.

80 32068

Explanatory Notes.

The designation employed and the representation of material in this report do not imply the expression of any opinion whatsoever concerning the legal status of any country, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

The monetary system in Portugal is escudos. 1000 escudos is called 1 Conto.
During the period covered by the mission, the value of one US Dollar was approximately 50 escudos.

GENERAL DIRECTION FOR LIGHT INDUSTRIES IN THE MINISTRY OF INDUSTRY AND TECHNOLOGY.

The expert wants to convey his satisfaction through the General Director Engº Albertino José Santana and the Sub-Director Engº Bartolomeu Monteiro for their co-operation throughout the project time.

Special thanks go to the counterparts Engº José Beja Cardeiro, Chief of Division, Engº Joaquim Ribeiro Bexiga and Dr. José Leitão Pereira, who once in a while took part in all factory visits and technical assistance to the shoe industry.

TABLE OF CONTENTS

Summary

The working programme set forth in the JOB DESCRIPTION has been carried out accordingly.

There is no scientific or defined approach to product development. Reccomendation see pages 9 to 15.

The tooling of the shoe industry must be improved, especially the closing room. This, together with changes in processes and transport systems, can raise the productivity and highten the quality. See pages 16 to 25.

The productivity could be further improved by introducing piece rate system instead of the present fixed salary scales for each category of personnel. See page 40.

Management must be strenghtened. The weakness here is emphasized by the lack of organized planning, production and material control as well as quality control. See page 34.

There is a lack of expertise in preparing collections co-ordinated with the production capabilities of the plants. See page 10.

The role of supporting industries is improving. Tanneries supply adequate quantities of quality leather (some exceptions), but component industries must improve quantities, quality and bring new articles. The co-operation between the mentioned industries and the shoe industry must be improved. See pages 27 to 32.

Training of personnel at all levels must be improved. See page 33.

No quality control in the majority of the shoe factories. See page 38.

Shoe industry costing not adequate. General costing system ought to be introduced.

A. Background Information

Before the second world war, the most important shoe production centers were S.João da Madeira, Lisbon and Oporto which consisted mostly of small workshops where the shoes were manually produced. The first place was known for men's shoes and the two latter for their ladies' shoes, of which Lisbon was considered to have the best quality. Oliveira do Douro produced slippers and children's shoes, Benedita was known for their various types of boots, and Braga known for their children's shoes.

The production capacity of each firm rarely reached 100 pairs per week. The standard production method was that each operator made a number of operations, and each closing room operator finished the whole upper.

In S.João da Madeira, for instance, the shop-owner took 25 to 30 pairs by train to Oporto where he sold the shoes and brought back raw materials for shoe production. It was also quite common that women carried about 30 pairs in a box on their head all the way to Oporto, sold the shoes there and brought the empty box back again.

It was about 1940 when Atlas Brasileira, a completely mechanized shoe factory, was established in Oporto, employing more than 100 workers. This factory was followed by Minerva in Oporto, Fox in Braga and Elite in Lisbon, the latter one producing Goodyear-welted shoes with machines from USMC.
The mechanical shoes were considered of better quality compared to hand made shoes. Nevertheless the consumer preferred the hand made shoes because of the much greater variety of patterns and colours. The result of this was that the mechanized factories found the competition so hard that they went bankrupt, one after the other.

The first sewing machines that appeared in the shoe industry were Singer, and later Pfaff came into the picture. All these first sewing machines were foot operated, and gradually, electric motors were introduced. But still in 1960 lots of foot operated machines could be found.

In S.João da Madeira some of the workshops tried to group up or make associations in order to use machines and production apparatus better, but disunity soon broke them apart.

The first component factory for insoles started in 1968/69, followed 1971 by heel production and 1974 by production of prefinished sole units.
The first machine in production was the so-called Finishing Board. This simple machine had a trimming head, scouring wheels and finishing brushes. Later followed cutting of sole units with eccentric presses and mechanical upper leather presses. Around 1965 the hydraulic cutting presses came into use.
From 1965 until today there has been a continuous progress. Machines have been imported in quantities, and the production has reached more than 20 million pairs annually.

B. Objectives of Project.

The objectives of the project were to assess the actual situation in the leather and footwear industry and to recommend measures to be taken to reach higher productivity levels and reinforce the competetive capacity of the country's shoe manufacturers, especially in the export market.

The expert was attached to the Direcção-Geral das Indústrias Transformadoras Ligeiras (D.G.I.T.L.) and directed a team conducting the survey of the leacher and footwear industry. The expert was expected to study the following areas and make recommendations for action to be taken:

1. The product development and tooling of the shoe industry.
2. The production technology, machinery and equipment and their maintenance.
3. The role of supporting industries such as tanneries and component industries, particularly from the co-operational point of view.
4. Training of personnel at all levels.
5. Quality control
6. Shoe industry costing
7. From 1 October to 31 December 1979 the expert assisted exporting shoe-factories in the preparation of new production lay-outs, select new machinery and equipment and, together with management, introduce costing and quality control systems.

C. Footwear Export

The 3rd Mocap, Portuguese Shoe Show, had its spring-summer 80 collection demonstrated from 15-17 June 1979 in hotel Porto Atlântico in Porto.
The Mocap is a twice yearly event which means that the next show will take place from 18 to 20 January 1980. These shows are organized by the Portuguese Exports Promotion Board, jointly with the Association of the Footwear Manufacturers and Accessories. It has financial support from the Institute for the Promotion of Small and Medium Industrial Enterprises.

During the latest Mocap which followed directly after the international exhibitions at Milan and Garda, 86 manufacturers and exporters presented their collections, and customers from 25 countries were present.
There were few design innovations displayed, and the buyers claimed that there was a definite lack of an original design concept. However, they indicated that the high quality available, especially in men's and children's footwear, compensated for lack of styling.

Due to the very high leather prices prior to the latest Mocap the prices on footwear had risen 20 to 28 per cent over the previous six months. The buyers were prepared to pay the increase provided they got quality footwear.
The shoe manufacturers are in a boom and this could be kept up if they are prepared to deliever quality footwear for the individual markets. Since the trading is in various foreign currencies, the devaluation of the escudo does not effect the export trade negatively.

The order taking by the individual firms during the Mocap must be considered very good. Some of the firms have now orders for six months production (including materials).

Import & Export Company PORTISA,led by the executive sales director Peter Gay,was also present at Mocap. This company has established another company for leather,called UNIVERSAL Import and Export Ltd.
The total personnel for the two companies is 22 persons,divided between S.João da Madeira (Portisa),and Vila da Feira (Universal).

Portisa is working with 15 Portuguese firms which they keep on full production the year round,and they are paid on a commission basis. They are working with 4 factories for ladies'sandals,with a production of 6.000 pairs daily,2 factories for men's flexible shoes with 1.000/2.000 pairs daily, factories with 500 pairs of children's shoes daily, 500 pairs of sports footwear daily and boot factories.

All the mentioned shoes are sold through the mother firm in Britain,and the shoes are paid within 30 days.
Portisa,which is exporting approximately 10% of the total Portuguese shoes,is now financing the expansion of some of the firms they are working with. Between Portisa and the manufacturers there is no legal obligation,but a very strong moral one,according to Mr Gay.

The sandal factories are in fact producing the same types throughout the year,the winter and spring production for Europe and the summer production forAfrica.

Shoe producing firms presently not exporting but with good production facilities should,through government channels, be encouraged to establish an export-office or export offices. Since there is an export boom now,this is the time to look for foreign markets in order to lighten the pressure of the national market and streamline the production.

Figures related to export can be seen from Annex I.

It should be noted that the total export ↔ footwear in 1978 reached 9,491,521 pairs. The estimated export ↔ footwear in 1979 should reach 13,516,940 pairs. This is an increase of 42.4 per cent from 1978 to 1979.

Of the 911 footwear factories operating in Portugal some 663 enterprises have registered with the Footwear Manufacturers' Association since 1978.
In that year,116 firms with a labour force of 9,428 were responsible for 89 per cent of the country's total export value of quality leather footwear. This demonstrates the high degree of concentration on exports which is understandable since the larger producers are responsible for the bulk of exports.

The major part of the footwear manufacturing industry of Portugal is located in five regional centres,the main ones being the Aveiro and Oporto regions which together produce 78 per cent of the country's output which in 1978 amounted to 21.5m pairs of all types. The table below illustrates how the industry is distributed within each of the major centres:

District	Production % of total	Nº of companies % of total
Aveiro	52.0	60.4
Braga	9.7	2.6
Leiria	4.6	2.1
Lisbon	4.7	7.8
Oporto	26.3	23.8

It certainly is true that export growth over the past several years has been significant. This is illustrated in the table below which shows, both in quantity and value terms, the annual rate of growth between 1974 and 1978.

Annual rate of growth: 1974 to 1978

Exports of leather footwear

	Quantity	Value
	%	%
1974/75	1.2	22.9
1975/76	17.7	39.2
1976/77	25.1	74.6
1977/78	19.6	47.8

The European Economic Community (EEC) is Portugal's largest customer, accounting for more than 60 per cent of the total pairage exported. As can be noted from the table below the UK and West Germany are two most influential markets.

Exports of leather footwear: 1978

Country	%
UK	24
West Germany	16
Norway	14
Sweden	11
Denmark	9
Holland	8
France	7
Angola	5
USSR	4
Finland	1
USA	1

A. Product Development

The study of the whole complex of the shoe industry clearly indicates that there are a few basic elements which are very weak indeed being one of these product development.

The shoe industry is lacking the facilities,offices or institutions which couldassist them,bringing new innovations in design,processes and materials. What really happens is that the individual factory copies from design magazines,especially Italian ones,or brings shoes already produced in other countries and makes a Portuguese version of the same.
This is fully acceptable for safety boots,but not for fashion footwear.

Portugal has improved its shoe industry year by year (see annex 1),mainly because they have been able to adopt themselves according to the various markets.

As a start it was correct to bring in lasts from foreign countries,copy and produce them here,but these lasts were mostly old-timers and should only be used as a base, upgrading them according to fashion.

The better class ladies'shoes factories bring in pulling overs and patterns from outside and adjust those according to their lasts which is fine,but the factories mentioned rarely export.

Some new ideas are brought back from international exhibitions by representatives for the more important firms,but generally speaking there are rarely new innovations from Portugal with the exception of cork units which should be explored more.

With exception of Campeão Português there are hardly any factories which build up their collections and successfully coordinate a marketing programme aligned to their plant capabilities.

All the factories have been encouraged to create a team for preparation of collections. This team should consist of the technical manager, the sales manager and the pattern cutter and, if possible, other creative and fashion minded persons. If copying or imitating from fashion magazines is one of the ways to build up a collection then each member should tick off the patterns he thinks are right. The patterns with most ticks will then be cut out and the team will decide on materials, colours and every detail, including the type and colour of bottom.

The first pair should be made, followed by an observation sheet, so that each department head can make their comments. When finished, the shoes and the sheet should be scrutinized by the team and remade if any changes are necessary. The technical manager will see that the collection built up is in accordance with production facilities or, when fashion goes in other directions, order necessary machinery and equipment immediately.

The Italian shoe industry has established itself to be known as the greatest and most creative. First and foremost this could not have been done without their designers and their associated industries, bringing out constantly new designs and products.

In Portugal the associated industries are improving and expanding nowadays, but there are still many articles missing. The articles available are often in short supply and the quality and finish must be improved.

Metal ornaments for instance are not produced and therefore brought from Spain, the nearest supplier.

This type of production is most suitable for Portugal considering the level of the light metal industry as well as the galvanizing and plating industries, but the difficulties lie in design of product and mould making.
One solution would probably be to work under license of an internationally well known firm.

The national shank producers should, through the Shoe and Associated Associations, be advised to seek outside technical assistance, for instance from "Muhr und Bender", Attendorn, West Germany, with regards to materials, shapes and dimensions tempering and machines needed for production.
The shanks produced nationally are not acceptable for shoes for export (or national) due to wrong material, dimensions and shapes.

All of the most important component manufacturers have been paid a visit. The manufacturers of sole units in rubber, T.R. and PVC are among the best, but in their collections there are too many old-timers and few new ideas or designs.

There ought to be a much closer contact between the lasts manufacturers and the sole and component manufacturers. The sole manufacturer should be able to buy sole units which fit correctly by being informed which number of lasts fit with the number of sole or component.
As has been seen during factory visits a lot of sole stretching and packing is going on in the various factories during sole laying. Standardization of last would be a step in the right direction to get better fitted units.
Microcell sole units and soles are very popular now, but the national produced sole or sheets are not acceptable since the materials crack or deform easily and are not even enough in the texture.
These factories should look for outside technical assistance to overcome their shortcomings.

The factories producing sole units in wood are efficient and their products are of good quality, but the wedge heels are of old design and the front is worked out so badly that this must be done in the shoe-factories, causing extra cost and delay there.
The sole units with resin rubber or leather sole, with or without rand and with wooden heels leather covered, have a demand exceeding production capacity at present.

The finish of these articles varies a lot. Very good finish has been seen, but with good reason there have been complaints from the shoe factories over the finish in general.

As has been pointed out to the unit producers, the poor finish is due to no leather filler used, too coarse sand paper, too dry ink and type of waxes and brushes used.

Portugal is the world biggest cork producer. COCA, the most important cork unit sole and wedge heel producer, turns out 3500 pairs of natural cork units and 1500 pairs of granulated units daily. The product development in this plant is one of the best, and their collection has a variety of styles and material combinations, always with cork as the main material.

Portugal could have a strong influence on the fashion of sporting ladies' sandals, using a variety of the ready made units mentioned above.

The government should encourage investment and assist in expanding present facilities and establishing new ones for the production of the mentioned article including the production of flexible granulated cork sheets and orthopedic sole units for sandal production.

Waste from all cork working units, including bottle cork as well as lower grade cork, should be collected for the mentioned type of production.

Natural cork in fine sheets is today used as bottom filling material, with the result that there is a waste of 60% to 80%. For bottom filling, granulated cork mixed with binders (adhesive) should be introduced.

A sizable quantity of slip lasted shoes (california) is produced, but no comfort type with inlay of sponge or flexible cork which would represent a higher priced quality product for export. The latter also goes for sandals with orthopedic cork insole.

The prices of PU soles are acceptable, but the lack of styling and not least the poor reproduction of design has kept down the sale.

The present internaticnally operated catalytic process in mould making gives a perfect result, and it is to be recommended that the mentioned factories seek outside assistance in this field.

Of ready made components the associated industries are able to supply only insole units _ _ _ in sufficient quantities. However, during visits paid to insole manufacturer some disturbing facts have been discovered.

The reinforcement material is too soft and the size of reinforcement too short. The shanks which do not fit the lasts exact are, with very few exceptions, too short.
The national shank, which is iron, does not have the necessary strength. For this reason it is shaped like a half tube to improve strength, but with the result that it makes a big ridge in the center and that insole looses stability.

A demonstration has been given in each factory on how to build a correct insole unit.

To get the future product development organized under the direction of a specialized office, the following is to be recommended:

Each factory exporting footwear should pay 2/1000 part of their total export sale to a Fund directed by a Board selected by the exporters. This fund should also pay for bringing in experts, giving courses in production Planning, Production control, stock control and last but not least quality control.
Specialized courses for mechanics in the more advanced sewing machines and lasting machines are also in great demand.
This fund should also be used for the establishment of a specialized office for PRODUCT DEVELOPMENT. This fund could be called the Product Development Fund.

The office needs a director, secretaries and four persons for design and product development. Arrangements should be made, so the designers could go to Italy and work closely with top designers for a period of one year.

For the others arrangements should be made so they can study with the most famous firms in the following areas: last manufacturers, sole and component manufacturers, ornaments and closures, tanneries. They should take part in meetings or seminars, where fashion is influenced or decided.

After one year abroad they should bring back all information gathered and present it in seminars to specialized factories, and naturally to the individual exporter of footwear.

After the first year the product development office should run normally. The personnel for product development will travel extensively to keep the industry fully up-to-date in fashion. When fully established, the office will have to charge for their services which include patterns and fully graded series of patterns.

B. Tooling of the Shoe Industry

Pattern Cutting Department

The majority of factories have their own pattern cutter; the exception is the "group one" factories with from one to five workers.

The profession of pattern cutters is considered one of exactitude, dedication and system, but one finds that in many factories the pattern cutting room is often dirty and disorganized. Due to lack of storage space for materials, lasts and patterns these things lay around and dust down.
The factory manager in each plant should see that his pattern cutter has a good size table, wooden cutting block, adequate tools and an adjustable chair and, in addition to this, sufficient cabinets to accomodate systematically his patterns, lasts, ornaments, etc.

There is a shortage of good tools like special cutting knives, oilstones for sharpening of knives, millimeter gauges, compasses and perforating tools. There is further a lack of grading machines (often done by hand or by apparatus), pattern cutting shears, clamping device and binding apparatus.

The well known marking system with plastic straps inserted in the hard-board pattern should be more used, including inserting of metal strips in hard-board patterns for press marking on split leather.
No patterns with pattern markers have been seen during visits, which is another simple way of marking by points.

Albeko is one of the firms selling pattern markers in three sizes, including automatic machine for fixing two at the same time, or simple tools to be fixed on simple hand apparatus. Anacleto & Filhos, Ltd. in S. João da Madeira, would be the right firm to produce pattern markers.

The daily production figures for hand cutters are very low. One of the reasons is that the patterns are not binded. It is an evaluation of cost of binding (pattern cutter has time), against higher productivity and patterns that are not cut out of shape.

Upper Cutting Department

Transporters are not used in this department, nor in the pre--fitting department. The latter department is, together with the closing room, even in the biggest size factories.

The position of the hand cutters and machine clickers is often lacking logic, and it seems that the table or machine are placed where there has been an open space. Special cutting tables with boxes for waste are rarely seen. Generally speaking, the tables are far too small to accomodate the cut parts and patterns. This is also the case with the cutting pads in plastic or zink that are so small that the skins must be moved continuously during the cutting process.

There are various types of cutting presses, both national and imported, but very few with hydraulic movable beam which would be a factor to consider since it may raise the productivity up to 10%.

Since many factories do not have any storage system for their clicking knives they place one knife on the top of the other and spoil the edge.
Sharpening devices for clicking knives are unknown, and for this reason the pressure to cut through in one stroke is excessive and spoils the block quickly.

Prototype boxes for storage of cutting knives made up after drawings, distributed during factory visits, are coming into use in several factories.

Special machines for cleaning of plastic cutting blocks are rarely seen. The blocks are sent to the carpentry shops for levelling and cleaning, but it means delay in getting them back.

The shortage of transport boxes in plastic from cutting, through closing, means that the cut parts are delievered by hand in plastic bags or any type of box.

Various firms are cutting materials from rolls, but none uses a system like Sandt arm machine with a feeding system like KABRA. This system need relative small space and the cutting press can be used for any normal clicking operation.

Bottom Cutting Department

Year by year the component factories are increasing their share of the insole and component market, and this is a healthy development. However, most of the factories still have their own bottom cutting department.

It has been observed during visits that the old "Eccentric Press" is the one that dominates. Because the material with cutting knife must be moved in and out of the press for each cut, it is a very slow process.
For factories with few lasts it is recommend to buy forged 100mm cutting knives with finger protection.
On, for instance, Revolution Press the cutting could be continuous until the cutting knife is filled, which means that one press can do the job of several eccentric presses.

There is too much scouring by hand and this goes also for the component factories. Automatic scouring machines should come more into use as well as cementing machines with automatic feeding to drying unit (latter not existent).

Apparatuses or small machines for covering of heels are lacking. This operation is normally done totally by hand.
Heels in leather and leather fibre are produced in the various factories, but in a very rudimentary way, and the pressing is normally with equipment improvised. This is a typical article for the component factories to produce with specialized equipment, including special heel press.

Closing Room

With a few exceptions the closing room is the poorest equipped section of the shoe industry.

The left arm machine which was the first machine introduced to the shoe industry is still the most dominating machine. It can be found everywhere.

The evolution in the Portuguese shoe industry during the last ten years has been remarkable, but the sewing machines have in a way not followed suit. The change in techniques and types of stitching has made it necessary to have more specialized machines.

Portugal has the normal flat and post machines with one or two needles, but very few with the time saving devices like thread pulling and trimming, automatic presser foot lifting, backtacking mechanism or special guides.

Factories producing shoes with french binding with leather or leatherette are guiding the tape in by hand and have a special person to reinforce with tape afterwards.

With a machine like Pfaff 471-755/01-59/01-913/52 in AL or BL, the guide 59/01 positions the tape directly for the needle, at the same time a stay tape is fed from the needle plate. The needle positioner 913/52 saves the operator many time wasting motions to the balance wheel and leaves the hands free for guiding the work. The result is not only higher productivity but more precise work.

Since abundant cheap labour is available there is a tendency to engage too many operators in preparing the work for the stitchers. The extreme has been seen in Oliveira de Azeméis where one factory has 30 table workers and 9 machinists. Regardless of how good machinists are, the productivity of the department is kept at a low level.

Most of the sewing machines are German made; but also Italian and Japanese. The latter ones are coming in because of moderate prices.

Folding machines operating with granulate or rod cement are common, but quite a number of firms, including export ones, are doing all the folding by hand.

Since the shoe industry is in a boom nowadays it is also the time to think of modernizing the closing rooms. Without indicating particular machines it is recommended that the Pfaff or ADLER catalogues New Perspectives 80 be studied carefully.

More information should also be sought about the guides from Geometric Controls Limited, Northampton, seen demonstrated on Pfaff machines during Pirmasens fair. With these guides a more perfect stitching and a higher speed can be achieved with less experienced operators.

Sports footwear of the Adidas type is a big article for export and for local markets; however, no factory has the most efficient eyeletting machines for double eyeletting at the same time, or in the case eyeletts only perforated, the type of perforating machine from Bima, which perforates both sides in one blow.

The productivity as well as the control of work could be improved by introducing efficient closing room transporters produced locally. It is advisable to introduce adjustable sewing machine tables and chairs so that the operators of different hights can operate in a natural position.
Furthermore, each machine should have the individual light so that eyestrain may be avoided during the darker time of the year.

Lasting and Making Department

Solvent types of toe-puff is mostly used, but in some factories toe puff applying machines have been in use. In one case, the machine was used for heavy men's footwear which is not recommendable due to the cost of the thermoplastic material. However, it is to be recommended for ladies and children's shoes since it is very fast and as reasonable as most other types of toe-puffs, and the positioning of the toe-puff is more bound to be correct.

Premoulded stiffners of leather fibre or solvent types are in use. One factory is bringing out thermoplastic materials for toe-puffs and stiffners during end of 1979 (Lorens).

Some of the backpart moulding machines seen are operated with only one mould and, in case of two moulds, the same for the whole series of lasts. Moulding this way is not acceptable or advisable and will not work at all when thermoplastic counter materials are coming into use. Then exact moulds corresponding to last will have to be fitted onto the machines, and a cooling unit will also be required like on ANVER 708/09.

The pulling and lasting machines are of various brands but generally up-to-date. Some of these machines operate with thermoplastic cement, but the majority operate with uppers precemented.
This operation is very often done by hand. By using machines there could be savings in cement, the cementing margin would be more exact and it would be quicker.

No factory is operating a two-machine system for lasting of flat footwear, nor is any advanced equipment for side lasting in use.

No automatic roughing machine is in use in Portugal. It is common to use an old scouring machine for the roughing of the lasted shoe. There have been some problems in connexion with roughing which could have been overcome if a combined roughing and scouring machine like DVSG nº2 had been used.

A variety of old sole presses, mostly pneumatic operated, are in use, many of which should have been changed years back. There are special presses for various types of soles but, generally speaking, the hydraulic presses with hard rubber laminated moulds adjustable are excellent for most types of work.

No special heel trimming machines or hot wax finishing machines have been seen. The latter ones would give a top finish to high grade shoes with leather heel (BUSMC 6).

Some factories operate their finishing brushes far too long after they should have been changed, and then no good result can be expected.

It should be mentioned that only one semi-automatic embossing machine has been seen during visits. This is another type of machine that needs to be considered.

The cleaning of the shoes is done after the lasts have been drawn. It has been recommended to machine clean the shoes (types of machines for this work have been indicated) before drawing the last, to maintain the shape.

The socks are hand cemented before placing in shoe, even in the bigger factories. Special cementing machines and types of cement, depending on type of material, have been recommended.

C. Production Technology

The variety of footwear produced is great, and it covers most construction methods like: cemented, flexible (Veldtschoen), welted shoes, slip-lasted, vulcanized and injection moulded. The machinery and processes for each one are different and, with continuous development of machines and processes, the factory managements need to keep themselves up-to-date. During dicussions with technical managers it has came out that there is a solid knowledge in "old shoemaking" but, when it comes to the latest technics and processes, they are not properly informed.

Tha lack of knowledge in combined insole production has been explained earlier in the report, but when it comes to new processes like the Unidec(BUMSC) or Anver and high frequency welding processes for production of uppers, no equipment is operating in the country and little is known about it.

All the options available today in transport systems are not known or considered, nor the options in the High Velocity Airplants for setting of the shoes or drying them.

Precementing of sole units and activating of same when needed to be attached to lasted shoes, are rarely seen. Cementing machine with transport belt to automatic drying unit controlled by photoelectric eye is not seen.
Injection moulding in two colours is not in use but should be quite common with the big quantity of sports footwear produced, both for export and local consumption.

All reinforcement of uppers is today done manually when there is a number of machines and apparatus available.

Reinforcement of top line and edges can be done at the same time as the sewing operation. This goes also for backseams that can be reinforced with seam levelling and taping machine. Other ways to reinforce may be by ironing-on materials like VILEDON(Freudenberg). Sling-back types of ladies' shoes could also be reinforced with thermoplastic materials applied with BUSMC toe-puff applying machine, using a special mould or template. None of the mentioned methods are used in factories visited.

D. Machinery and Equipment and their maintenance

When most factories, regardless of size, have their own pattern cutter, only the medium and bigger factories have their own mechanic. Only the big factories have workshops properly equipped for their mechanics. It seems that the mechanics attend to urgent repairs more than to do preventing maintenance work.

Diagrams or charts in the workshops indicating time for cleaning of filters and oil-change on hydraulic machines including type of oil are not in use. Normally only one type of oil is used for the different types.

As mentioned earlier in the report, upper and bottom leather cutting knives are not maintained sharp, due to lack of sharpening devices, resulting in lower productivity (double cutting) and excessive use of cutting blocks.

It has been noted that the majority of sewing machines should have changed or adjusted the breaking lining on the motors since most operators cannot control their machines and therefore use one hand on the balance wheel to control the machine.

One can say that little organized maintenance work is done. The machines normally run until they break down after which the mechanic takes over or the machines are sent to specialized workshops for repair. Outside repair can often be more costly (and more delayed) than if they had their own mechanic in the plant.

Cutting knives are purchased from special producers at prices which seem very high. SANDVIK,Lisbon sells equipment for making cutting knives and they train someone from the factory (mechanic) purchasing the equipment. The training is normally done within three weeks but will continue until the person is fully competent to produce quality knives,and this training is done free or included in the price of the equipment.

There is a shortage of good mechanics and most of them are self taught.
Since the factories have expressed their interest in getting courses for mechanics,it is recommended that the Shoemakers Association contacts firms like Pfaff or other important machine manufacturers,requesting them to conduct courses in Portugal instead of sending people abroad.

Some of the factories are keeping their plants and their machinery clean,but generally speaking the cleaning of machinery is not acceptable. The time set off weekly for cleaning of machinery is sufficient,but there is a lack of control to see it is done properly. Every machine operator should have a brush and cloth,and at the end of the week brush it down with a special cleaning fluid,and not only that it appears clean on the outside surface.

E. Associated Industries to the Shoe Industry

The tanning industry plays the most important part as supporting indus.ry to the shoe industry.
Since national raw materials only account for approximately 30% of consumption,the Portuguese tanning industry is therefore fully dominated by the international raw material market.
When the prices on the international raw hide market showed a downward trend in May/September 1979,the prices for finished leather in Portugal did not follow suit.

The tanning industry is running well, and quite a few factories are expanding their present facilities or are building new plants.
Investment in machinery and equipment is increasing,but still a substancial part of it is old and need renewing.
Some new Mercier splitting machines operating in the wet can be found,but more are needed,including fleshing machines,automatic spraying units,vacuum dryers and sammying machines.
Some of the smaller tanneries are very pressed for space,when others with relative few workers have thousands of sq.meters to operate on. See Annex 3 : From the chart can be seen where the biggest concentration of tanneries are,as well as type of product and quantity.

The tanning industry is diversified and is able to satisfy the need of the shoe industry. The main bulk of footwear for export is in the line of sports for which side leather and split dominate with nubuck coming up this year. Kid and goat skins for lighter footwear are also in demand.

The classification of leather is quite unusual,with far too little price difference between the different grades. For example,one factory quotes for full grain aniline leather: first 120 esc.,second 118 esc.,third 115 esc.,fourth 111 esc., and rejects 107 esc.

Properly sorted, the national leather is fully acceptable for quality footwear for export.
What is called calf leather in Portugal is not the expected up to 14 sq. ft., but up to the size of cow hides, which also is sold in halves.

The shoe factory owners complain that they have little co-operation from the tanners when it is a question of new colours, since it takes such a long time before delievery.
Furthermore, there is a shortage of split leather for upper in 2 to 2.2 mm thickness (good quality) and oil-treated leather for rustic boots must be imported from Brasil since it cannot be produced in the country. The main complaint is about the prices and their sudden changes (upward) which makes it difficult for the shoemakers to quote fixed prices on the export market.

The importation of finished leather is increasing because, as the shoe industry indicates, it comes cheaper and the quality is better.
Full grain side leather from Argentina is 20 to 40 escudos cheaper than national, and kid and goat from India and Pakistan is 20 to 30 escudos less, with a similar difference also for lining leather imported from Asia.
Several factory owners have expressed that they want to buy national produced leather in preference to foreign if price and quality are kept at an international level, otherwise they have to import.

Adhesives

All the adhesives used for the shoe and woodworking industry are national made. Lorens, who supplies 80% of the national market, is working on license from various foreign countries including Spain.

Today the production is 15,000 litres daily of which 11,000 litres are for the working industries etc., and 4000 for the shoe industry.

The firm produces also solvent type toe-puff and counter materials, and from September/October 1979 will start production of thermoplastic materials for same use. The price for new material will be 20 to 30% higher than solvent types, but no consumption of solvents. They have plans in the near future to produce their own textile and establish a section for ready cut and skived toe-puffs and counters.

The actual factory which is 4000 sq. meters will be sold when they move into new promises under construction. The new building of 7000sq.meters to be finished in 1980 is placed in a terrain of 18000 sq. meters allowing for more future expansion.
The co-operation between the adhesive producers and the shoe industry is good.

Component Industries.
The specialized producers of insoles should be able to satisfy the market in 1980. This also goes for premoulded counters of leather fibre or toe-puffs and counters of solvent or thermoplastic materials. Of the various sole units, the resin rubber sole with leather - covered wooden heel and rands of different types are always in short supply.

The firm Coca is preparing to produce 2300 pairs of TR-injected soles with rand-and leather covered heel as of end 1979 and, in addition to the 1000 pairs per day produced of resin soles with rand-and leather covered heels, will produce 1000 pairs more from June 1980.

Expansion like the mentioned will ease the market and, with similar expansion in other firms, the shoe industry will have improved supply of units during 1980.

The component industry is not an industry giving service in addition to their sale. It is especially noted that extra work is being created for the shoe industry because the heels or wedges are fitting to poorly.
The component industry should send their technicians at regular intervals to the shoe industry to check and ajust components not fitting well.

Lasts.

Portuguese last manufacturers are copyists and do not bring innovations themselves. Creative last designers are lacking, and when the office for Product Development materializes it should take action to overcome this handicap.

Displaced lasts for moccasin production, which would facilitate it and produce a tighter fitted upper, are not in use. Moccasins are force-lasted over hinged lasts using a shoe horn, stretching the top line centimeters over its final length. This way the position of the back-seam is also more difficult. Beside the need for displaced lasts , so called W-hinged, there is a need for engineered lasts designed to facilitate shoemaking operations, e.g. standard heel seat shape, standard back cone height, standard plane relations, etc.. The latter would also help to get better fitted units and components.
One often finds differences between lasts in the same number and style and particularly so if the same last is ordered at a later date (supplement). It has been pointed out that the minimum the last manufacturers could do is to check that the insole is the same.

Insole Materials

Shoes and boots that go for export are normally fitted with insoles of imported materials like Texon or Bontex. The locally produced fibre board is partly used for footwear for local consumption including for counters and heeling material, and some goes for export.

The hard-board used for reinforcement of insoles as well as hard-board for patterns is too loose and lacks stability. Encouragement should be given to these industries to improve their products by reducing the percentage of recirculated paper used today.

There have been complaints about the quality of the national leather fibre board, especially about its low tearing strenght and poor shape retention. Shoe factories visited as well as tanneries operating with vegetal tanned leather, all burned the waste instead of collecting it for the fibre board production. That waste, if utilized, would have improved the quality of the present fibre board.

It is well known that chrome leather rasp (wich is used for leather fibre board in Portugal) is not so good and that the shape retention of insoles made of such materials is poor. However, the right type of softeners and binders or cementing emulsions can greatly influence the firmness, hardness, elasticity, flexibility, water absorbtion and shape retention including heat and cold resistance.

It was noted during visits that huge piles of rasp could create problems since the tanners did noy know what to do with it. This rasp could easily be hydraulically pressed in blocks for easy transport to the leather board factories.

The producers of leather fibre board are running three shifts, that is to say around the clock.

Considering that there is a local and foreign market for the mentioned product and that the basic raw material is free and abundante and the only cost will be transport from tannery to production site, the Government should, through proper channels, incourage investment in new modern plants .

I.N.A.C.A. who is the main producer of leather fibre board (Industria Nacional de Couro Aglomerado) exported

1978 = 42000 contos

1979 = 32000 contos (sales increased nationally)

1980 = 75000 contos (estimated as minimum).

F. Training of Personnel

Portugal is in a very favourable position as far as labour is concerned.

There have been no problems with recruitment of boys and girls to the shoe industry, and even whenit varies from region to region, the majority of youngsters have a flair for this type of work.

Probably no country can match Portugal with regard to the low average age of workers in the shoe industry. In Felgueiras, there are several factories where the average age is approximately 20 years; and if considering only the closing room, approximately 18 years. One should take into account that the picture is especially flattering because the boys and girls start work when they reach 14 years of age.

The training of operators is mostly done in the factories, but not by specialized instructors. The normal procedure is to place the apprentice by the side of the skilled worker, who will teach the boy or the girl to do the operation his way. As is understandable, this is not the ideal, but due to lack of instructors, this is the reality.

In the closing room where only girls are operating, the apprentice starts with simple table work after which she learns folding by hand or machine (depending on the factory) or lining stitching and ending up, being experienced operators doing running round work.

It can be noted that the shoe industry engages approximately 15000 workers of whom 43% to 45% are women.

The training varies from plant to plant, but already after a few days or weeks the apprentice is productive.

No factory is carrying out any sort of courses, seminars or lecturers for their management or supervisory staff, neither are they sending staff for outside education. However, in some cases there are pattern cutters on courses in France and ARS SUTORIA in Italy.

The need for training of management and personnel is far more acute. There is a great need for management personnel, but more so for competent book-keepers, store-keepers, production planners and personnel for calculations, related to material saving in bottom and more so in upper leather materials (bonus-systems). Last but not least, specialized training courses for quality controllers are of primary importance.

The productive apparatus in the shoe industry is working well, but there is a definite lack of control throughout. If the Government cannot find a national solution to the mentioned problems, outside assistance should be sought.

An exception to the above system, do we find in the factory Campeão Português where they have a special training department, directed by Engº Laranjeira. As a member of Satra, they conduct six- to eight-week full-time courses (45 hours weekly) for closing rooms with 6 participants, based on that system. Since the training is only for their own benefit the courses are not run continuously.

In lasting and making departments, the instructions are given on the machine or place where they need people. For supervisors, they have six-month courses, based on 50% theoretical and 50% practical instructions. Participants who are from outside the factory must have a good education (similar to high school), before they are admitted. The theoretical subjects include: Planning of production, methodology and shoe technology.

CFPIC, Centro de Formação Profissional de Calçado, in S.João da Madeira, is established by the Government to assist the shoe industry in training their workers.

The Centre has an operational area of approximately 2500sq.m. in three levels. Like a factory, it has all departments, including a number of rooms for lecturing. In addition to this, a section in Oliveira do Douro and another in Felgueiras, where courses in closing are conducted.

The total number of the staff is varying from 30 to 35. There are 10 full-time instructors and some part time, 3 office workers, 2 accountants, 3 cleaners, 1 driver, 1 receptionist and 1 girl for the store of finished goods.

The type of courses and number of participants for the scholastic year 1979/80 can be seen from annex 4.

The Centre is fully equipped,but a good number of the machines should have been changed to more efficient and advanced ones.

If for financial reasons the renewal of the mentioned machines is not feasible the Centre should approach various foreign and national machine firms to find out if they would be willing to grant machines. For sewing machines, they could approach Pfaff in Kaiserslautern.

The Centre structure is like a shoe factory. They buy raw materials on the open market and sell the finished product, just like a factory. In fact,the yearly production is estimated at 20.000 pairs annually of which a great part is simple training shoes with synthetic uppers with a split sole,the latter one with a smaller rubber sole stitched on. All types of cemented footwear are made from men's boots to children shoes.
The budget for 1979/80 is 18 million escudos of which the Centre is covering 50% from its own returns,and the other 50% is from Government funds.

For day courses,the students are paid. For the first one to four months,they are paid 1.500$00 per month after which time they are paid 2.000$00/monthly.
For evening courses,the students pay from 200 to 400$00 per month.

The duration of the courses is very long,and this can partly be explained by the way the Centre is maintained.

By keeping the students when they are productive the Center may sell more and better shoes, but it reduces the industry's chances for trained personnel.

Looking back on Campeão Português who was running six- to eight-week training courses in closing room and six-month courses for supervisors, which must be considered acceptable, the following is recommended:

The Board of Directors of the Center should, as a matter of priority, study the possibilities of a restructuring of the whole complex of courses.
The course in upper leather cutting and preparation is to be reduced from ten to six months, eliminating the instruction on the grading machine which should be in the course for pattern cutters only.
The course in closing is to be reduced from ten to three months, teaching based on the proven system of SATRA.

The boys and girls coming to the Centre in S.João da Madeira, are sent by the National Board of Employment. The selection of students is not always ideal, like in the case seen during the visit to the Centre; of 10 students for the lasting and making room, which is a typical masculine department, there were 8 girls and 2 boys.

It is to recommend that the Centre is given more influence over the selection of students for their courses in the future.

After the visits to shoe factories in various parts of the country it is felt that the technological level of technical personnel is not up to date as far as machines, processes and technics are concerned, and that the Centre could play an important role in conveying this to the mentioned personnel during special seminars.

The first seminars to be organized should be in shoe industry costing, followed by production planning, production control, material control and quality control.
If there is a shortage of national instructors for these seminars, international experts should be brought in who could be paid from the product development funds.

From a total of 900 shoe factories, only two have time and motion study personnel. The importance of this type of work cannot be overestimated. It is, therefore, recommended that the Government makes a special effort to initiate this type of courses.

In 1972 the Export Council initiated that 15 students, some with a five-year university study by Belas Artes in Oporto, were trained in practical pattern cutting after which they took a three-month course at ARS Sutoria in Italy.

This was a move in the right direction to improve product development in design, but the sad thing is that not one of the mentioned students are working in the shoe industry today.

Quality Control.

Only Campeão Português has organized control of materials and processes. The individual factories do not have any equipment for testing of materials nor specialized personnel for controlling the quality during the processing.
No factory prepare reports in connection with quality.
An action-oriented programme to be introduced by all exporting firms should be initiated as a matter of urgency by the Government so that quality control in the shoe industry can be a reality during 1980.

E. Shoe Industry Costing

Material and labour cost can vary considerably from one type of footwear to another, depending on pattern, bottom construction and type of materials used. It is, therefore, necessary to make a precalculation of any article to see if it is competetive in the market. Maybe it is cheaper than the competitor's or maybe it is not profitable to produce.

The mentioned type of precalculation has not been seen in any factory visited. What has been seen, however, is that material cost, plus salaries and social cost are added together and on top of this 38% to cover all other expenses, including profit.

A system so simplified does not give a true calculation, but normally results in a handsome profit for the firm. The problem is that due to lack of monthly balance sheets, the economical situation is first known at the end of the year.

During factory visits prototype of correct calculation has been discussed with management. This prototype contains details of labour cost, department by department, details of material cost, social and administrative cost, amortisation of machinery and buildings, overheads etc..
It is recommended to start up continous courses in costing as a matter of urgency in the different industrial Centers.

I. Productivity

The chart demonstrated in annex 2 gives a complete picture of the 52 factories visited during the mission.
When analysing the shoe industry as a whole, it must be taken into consideration that approximately 800 to 850 firms not visited are mostly small firms with less productivity than the 52.
The 52 factories have 6342 employees and of these 5695 workers, producing an estimated 8.618.500 pairs of footwear in 1979.

The average productivity, considering all employees, lies around 6,3 pairs per person per day and, considering workers only, 7 pairs per person per day (calculated on 225 working days per year). Considering the type of footwear produced, these figures can be improved.

The two main obstacles for higher productivity are first the shortage of modern machines and equipment, and secondly the existing payment system. The fixed salary scales (contract) for the various personnel in the shoe industry can be seen in annex 5 .

A piece-rate system would increase the productivity, but to introduce it there is a need for competent time and motion study personnel. Since there is only a couple of persons working in this field, the first would be to train a good number of people in this field and secondly, to train people for quality control jobs since with piece rate the quality control must be quite strict.

The Government should take appropriate steps to see that training is initiated in the above mentioned fields.

The International Labour Organization who has produced an excellent book on the subject of time and motion study would be a good contact.

Another way to improve productivity and utilization of materials is to introduce bonus or premium systems for the cutting departments.
For this, personnel needs to be trained in preparing estimates of material consumption for the various patterns, considering the type of upper leather available, and to calculate the final result after the order has been cut .
The mentioned type of training could take place at the C.F.P. I.C. in S. João da Madeira.

J. Production Lay-Out

The objectives of the first three months of the project were to assess the actual situation in the leather and footwear industry and to recommend measures to be taken to reach higher productivity levels and reinforce the competitive capacity of the country's shoe manufacturers,especially in the export market.
During this phase of assessment the need for improvements in production layout and organization came clear.
Since six factories had plans for expansion,two of them with new plants,and these plants requested assistance during visits,the Government requested UNIDO for a three-month extension of SI/POR/79/801/11-01/31.7.D. in order to render this assistance.

Fábrica de Calçado dos Carvalhinhos,Ltd.(sic) in Felgueiras which had extension of their present facilities under construction was the first attended to.
The factory produced approximately 1200 pairs daily,of which 700 pairs were men Veldtschoen and 500 pairs moccasin, both of high medium quality,with a labour force of 166 persons.
This gives approximately 8 pairs per person per day. The new layout which is for 3600 pairs per day with a labour force of approximately 240 persons,gives a productivity of approximately 15 pairs per person per day.
The owner, Mr. Avelino Pereira and the technical manager, Mr. Carlos Araújo,as well as the time study man Mr.Armando, cooperated fully during selection of machinery,equipment and transporters and preparation of the production layout
There were daily discussions with regard to processes,card and control systems including quality control. The factory has a mini computer which facilitates the control in the factory.

The construction work will finish beginning of _ December 1979 and work will start up the first quarter of 1980. New machines and equipment have been ordered, both national and imported.

The next factory was Carlos Pereira de Castro & Irmão, Ltd. (MARINA), in Felgueiras. Mr. Carlos and his brother gave us complete support and co-operation throughout, facilitating the work a great deal.

The factory produces 1200 to 1400 pairs of moccasins and cemented men's shoes, with a labour force of approximately 150 which gives a productivity between 8 and 9 pairs per day per person.

The present factory will be reorganized according to new layout, and in addition a new factory is under construction.

The total production is planned for 3300 pairs in both plants of which 1000 pairs of moccasins in new plant. The total labour force is calculated at 220 persons, giving an average productivity of approximately 15 pairs per person a day of which the moccasins are calculated to reach 16 to 20 pairs per person, according to pattern.

The productivity figures for this new layout are considerably higher than in the best exixting factories in the country and are calculated on high medium quality.

The basic concept has been to eliminate all unnecessary handling and transport of work by introducing efficient transporters, eliminate table work by introducing machines that finalize each job and by introducing machines with higher productivity and, last but not least, changing of processes.

The firm Almeida Bastos & Dias,Ltd. in Oliveira de Azeméis is presently working in a very pressed and disorganized factory. The present production is about 800 to 900 pairs per day of ladies' cemented boots and shoes,with 162 employees.
A new factory has been built and the layout for this is 1500 pairs of the same production as before,and in addition 1000 pairs per day of ladies' Veldtschoen,with a labour force of 180 persons. The production in the new factory will start up between March and June 1980.
The productivity should reach between 12 to 14 pairs per person.

The factory José Francisco Leite & C9.,Ltd. in Oliveira de Azeméis is producing children's Veldtschoen and slip lasted shoes, approximately 400 pairs per day.
The new lay-out,utilizing the same premises but removing walls and covering an open area to be used for store,allows a production of 1000 pairs per day,introducing new processes and partly new machinery.
The co-operation of Mr.Leite Dias and his brother could not have been better. Offers for machines and equipment have been requested and the factory will make the change during vacations in August 1980 and will go into production in September with complete staff needed. The present productivity is between 9 and 10 pairs per day/worker.
With the new layout they should reach approximately 14 pairs per person a day.

Sociedade de Calçado Príncipe,LTD. in S.João da Madeira is actually producing 300 pairs high medium cemented ladies' shoes and boots daily,with a working force of 92. This gives a little more than 3 pairs per person a day. The firm has built another factory for which a new layout has been prepared.

The idea is to move the machinery from present factory to the new one and buy some more machines and equipment. The new factory will produce approximately 600 pairs of high medium ladies' shoes and boots daily and will have a new section for producing its own sole components and insoles. The total labour force will be approximately as today, which will produce between 6 to 7 pairs per person per day.

The last factory is Gical-Indústria Portuguesa de Calçado, Ltd. in Benedita. The management and owners are Mr. António and Mr. Luís Ramalho, Mr. Albertino Coelho and Mr. João Seralheiro who have been very co-operative.
Today, the production is 400 pairs of men's Veldtschoen and 350 pairs of injection-moulded and cemented shoes per day. With a work force of 74 it gives approximately 10 pairs per person a day. The new layout is for a production of 1500 to 1800 pairs per day. This has been possible by removing walls and changing of installations, including covering of open space for raw material store.
New machines have been included especially in the closing room. The total labour force is calculated at 120 persons which will give a productivity of 12 to 15 pairs per person daily.
Each layout was accompanied by a list of machines and equipment and a little booklet giving details of every operation and processes, including control systems and quality control.
System of costing was prepared with the management.
In each layout are included new transporters for all departments as well as HVA plants and dryers for cement.
Material storage, stock control with appropriate cards for each material as well as how to organize quality control were elaborated with the management.
See Annex 6.

During the last week in Portugal a production layout was prepared for shoe factory Nicolex Ltd. in S.João da Madeira. The owner, Mr. Napoleon Leite, was present during the elaboration of the plan which was prepared in the Ministry of Industry.
The factory is at present producing 4oo pairs of children shoes in cemented and california process.
The new layout is for 1000 pairs a day, subdivided for 500 pairs of cemented and 500 pairs of california children's shoes.
Lists of machines and equipment for the production of 500 pairs more children's moccasins within the same premises have been prepared. The change according to the new plan will take place during the month of August 1980.

K. CONFERENCES

During the mission, two conferences were given.
The first in Felgueiras on 29 October 1979 and
the latter one in S.João da Madeira on the 7 December 1979.

The topic for the first conference was:

THE PORTUGUESE SHOE INDUSTRY - ITS STRENGTH AND WEAKNESS.

The content of the second conference was:

1. INTRODUCTION
2. LAYOUT
3. FACTORY ORGANIZATION
4. PRODUCTION PLANNING
5. CONTROL
   a. Materials
   b. Production
   c. Quality
6. DISCUSSION

Recommendations.

The future development of the shoe industry depends on the actions taken by the industry to overcome the deficiencies in management, control and supervision.

In addition to general management courses , the following courses below should be initiated in 1980 and run continously for two years:

1. Production Planning (theoretical and practical, case studies, preparation of books, charts and forms needed).
2. Production Control (preparation of tickets, forms etc. needed).
   These two courses could be lectured alternatively and have a total duration of approximately 200 hours.
3. Quality Control (theoretical and practical, laboratory testing); approximately 80 hours.
4. Stock Control (theoretical and practical, preparation of forms, codes); approximately 40 hours.
5. Costing (preparation of budget, forms etc.): approximately 40 hours.
6. Time and Motion Study (based on the book on this subject from I.L.O.) approximately 200 hours.
7. Specialized Courses for Mechanics (industrial sewing machines, lasting machines etc.); four- to six-week full-time courses.

Due to the conditions in Portugal it would probably be adviceable to run the first six courses as evening courses. The financing could possibly be through I.A.P.M.E.I. (Instituto de Apoio ás Pequenas e Medias Empresas Industriais). International organizations could help in recruiting lecturers .

During conferences in Felgueiras and S.João de Madeira the idea of establishing a fund for product development was raised and the reaction was favourable. It is therefore recommended that the industry establish this PRODUCT DEVELOPMENT FUND by contributing with 2/1000 part of their export sales.
The product development section which will draw from this fund could be positioned in C.F.P.I.C. (Centro de Formacão Profissonal de Industria do Calçado) in S.João de Madeira.
This section should have its own director, secretaries and three to four design specialists.
The first year the specialists should work closely with top Italian designers for shoes, lasts and components.
They should further take part in seminars or meetings where fashion is influenced or decided.
When returning to Portugal they should give seminars and present their findings to the exporting industries concerned.
After the first year the work should continue in Portugal with frequent visits abroad to bring new ideas and present those in seminars.
Long-term contracts should be made with the specialists to prevent that they leave and establish themselves after having been trained.

Annex 1.

EXPORTS OF FOOTWEAR BY TYPES

YEAR	64.01		64.02		64.03		64.04		TOTAL	
	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
1973	768 808	22 711	3 831 144	510 302	31 297	2 555	29 932	1 651	4 661 181	537 219
1974	1 537 307	59 399	3 732 132	585 391	20 205	1 623	8 523	463	5 298 167	646 875
1975	1 482 187	62 041	4 190 315	719 665	40 570	2 686	9 956	1 068	5 723 028	785 460
1976	1 139 734	63 310	4 931 575	1 001 594	52 470	3 634	99 862	8 847	6 223 641	1 077 335
1977	1 643 412	107 923	6 168 196	1 748 908	18 153	2 961	53 484	9 013	7 883 245	1 868 805
1978	2 043 477	194 633	7 428 518	2 575 509	16 115	3 867	3 411	552	9 491 521	2 774 561

SOURCE: I.N.E.

64.01 - Rubber or artificial plastic material footwear, with sole of the same material.

64.02 - Leather-soled and rubber-soled footwear not included in 64.01.

64.03 - Wood footwear or wood-or cork-soled footwear.

64.04 - Other-material-soled footwear (as rope, textile, ...)

IMPORTS OF FOOTWEAR BY TYPES

YAER	64.01		64.02		64.03		64.04		TOTAL	
	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE	QUANTITY	VALUE
1973	4 300 741	24 274	541 555	25 056	4	0	501	19	4 842 801	49 349
1974	2 439 124	21 108	702 890	43 660	1 500	188	2 160	80	3 145 674	65 036
1975	1 813 834	15 653	485 372	36 969	3 031	376	9	1	2 302 246	52 999
1976	2 063 167	16 261	276 884	16 084	1 425	212	101	12	2 341 577	32 569
1977	1 307 261	12 601	79 746	9 455	-	-	-	-	1 387 007	22 056
1978	344 109	6 473	62 418	10 880	74	45	3	0,3	406 604	17 398

SOURCE: I.N.E.

64.01 - Rubber or artificial plastic material footwear, with sole of the same material.

64.02 - Leather-soled and rubber-soled footwear not included in 64.01..

64.03 - Wood footwear or wood- or cork-soled footwear.

64.04 - Other-material-soled footwear (as rope, textile, ...)

EXPORTERS DURING THE LAST 5 YEARS

(ANNUAL RATE OF GROWTH)

	LEATHER SHOES (64.0.2)		ALL TYPES	
	QUANTITY (pairs) %	VALUE (1000 Esc.) %	Q.PAIRS %	V.(1000 Esc. %
1973/72	- 7,5	19,1	-11,8	18,2
1974/73	- 2,6	14,7	13,7	20,4
1975/74	1,2	22,9	8,0	21,4
1976/75	17,7	39,2	8,7	37,2
1977/76	25,1	74,6	26,7	73,5
1978/77	20,4	47,3	20,4	48,5

SOURCE: T.N.E.

IMPORTANCE OF FOOTWEAR IN THE GROSS NATIONAL EXPORTS

YEARS	FOOTWEAR EXPORT (1 000 Esc.)	GROSS NATIONAL EXPORT (1 000 Esc.)	%
1973	537 219	45 410 493	1,19
1974	646 875	58 014 289	1,12
1975	785 460	49 328 112	1,6
1976	1 077 385	55 088 512	1,96
1977	1 868 805	77 685 327	2,41
1978 *	2 774 561	107 861 186	2,6
1979 **	2 309 074	63 525 498	3,63

SOURCE: I.N.E. Iudustrial Statistics

NOTE: 118,5% - Increase between 1973 to 1978

* Provisionary data

** January to May (preliminary)

TANNERIES

January to May 1979

	EXPORTS		IMPORTS	
	KG	ESC.	KG	ESC.
Green Hides	666953	91796222	4957208	406045205
Dry sheep skins with white wool	48982	9673302	36872	3037400
Not-specified dry skins	113412	73384762	1984663	160666000
Raw hides	829347	174854286	6978743	569748605
Splits	69890	24536284	-	-
Sole leather	25567	6437494	-	-
Wet-blues	190729	5400065	599952	48565424
Hides and skins not-specified	82638	34891190	311529	169949730
Cattle hides and horses hides tanned	368824	71265033	911481	218515154
Tanned sheep skins	606	894270	59518	84767803
Tanned goat skins	-	-	115685	93382130
Other animals tanned skins	59	103682	54473	58156821
Suede leather	257	490425	43671	66617767
Patent leather,gold and silver leather	-	-	52	66000
Cut-offs	40255	1093400	154348	6972600
Total of hides and skins	1239348	248620096	8317971	1098226880

SOURCE: I.N.E.

FOOTWEAR

JANUARY to MAY 79

	EXPORTS		IMPORTS	
	PAIRS	ESC.	PAIRS	ESC.
Rubber or plastic footwear,with plastic sole	793609	90163412	272849	4136137
Footwear of silk or textile fibres,or artificial leather	838	226365	3	1600
Halfboots 30 cm	58591	43274596	-	-
Not-specified with leather sole or with rubber sole	4640531	1906275059	2699	1289353
Not-specified	622674	139654181	4809	2940291
Footwear with leather sole etc.; with rubber sole etc.	5322634	2089430201	7511	4231244
Footwear of wood or with woodsole or cork units	27821	7931626	-	-
Uppers and shoes components	-	121548598	-	16631115
Total of Footwear	6144064	2309073837	-	24998496

SOURCE: I.N.E

Total Export Footwear 1978 = 9.491.521 Pairs.

Estimated Export Footwear 1979 = 6.144.064 Pairs 11/5 months = 13.516.940 Pairs

Wich gives a 42,4% increase from 1978 to 1979.

AVERAGE EXPORT PRICES

YEAR	AVERAGE PRICE ESC.
1973	133$00
1974	157$00
1975	172$00
1976	203$00
1977	284$00
1978	350$00
1979 *	376$00

*January to May

SOURCE: STATISTICS FROM INE

Annex 2

NAME OF FIRM AND LOCATION	AREA Sq. metres	CAPITAL in millions	EMPLOYEES	OPERATIVES	APPL. and MANAGEMENT	SALARY BY CONTR. + SOCIAL GIVEN as %	PRODUCTION in pairs 1972	[illegible]
1- Ocidente de Calçado Filial. Rua D. Afonso Henriques. S. João da Madeira	480	1	59	53	6	X	144 000	150 000
2- Tonia-Indústria de Calçado Ltd. Outeiro.S. João da Madeira	1200	4	106	96	10	X	100 000	110 000
3- Batata Almeida & Neves Ltd. Rua Jaime Afr. S. João da Madeira	200	0,2	49	44	5	X+	40 000	50 000
4- Valdemar Manuel Pais Oliveira. Praça Dias Garcia. S. João da Madeira	200	01	30	26	4	X+	55 000	70 000
5- A. Industrial de Calçado Aranto Ltd. Rua Brasil. S. João da Madeira	2000	2	160	152	8	X+10%	200 000	225 000
6- Pinto de Oliveira (Irmãos) Ltd. Rua Visconde. S. João da Madeira	4500	05	330	294	6	X+10%	240 000	260 000
7- Fábrica de Calçado Ambote Ltd. Zona ind do Urreiro. S. J. Da Madeira	820	2	50	46	4	X	42 000	115 000
8- Lisboa & Cº Ltd. Zona ind. do Uneiro. S. João da Madeira	1200		50	44+4	2	X	45 500	55 000
9- Calçado Nicolex Ltd. Zona ind. de S. João da Madeira	2000	06	100	95	5	X	80 000	110 000
10-A. Industrial de Calçado Rialex Ltd. S. João da Madeira	450	03	75	71	4	X	95 000	95 000
11-Sociedade de Calçado Colômbia Ltd. R.de Moçambique. S. J.da Madeira	2500	1,5	96	92	4	X+	120 000	120 000
12-A. Soares Dias.Seconia ind. de Calçado Ltd. Trav. Vista Alegre. S.J. M.	600	2	135	125	10	X+8%	100 000	110 000
13-Aurélio Dias da Silva. Rua do Godim 272. Porto	4200	1,9	134	122	12	X	77 000	90 000
14-Armando Pinto & Luís Ltd. Rua Parque da Rep. 42 Porto	360	015	102	88	14	X+10%	110 000	220 000
15-Oliv.A Ribeiro Ltd. Rua da Amparo 42 A. Porto	120	01	14	12	2	X	6 000	8 000
16-Luminios Torcato Ribeiro (Campeão Português).Guimarães			900	740	130+30	X+10%	1,5 mill.	2 Million
17-António da Silva Xavier & Filhos Ltd. S.Torcato.Guimarães	3200	3	150	130	20	X	273 000	330 000
18-Cavaldo Pinto Ltd.Outeiro,Santiago de Riba-Ul.O. de Azeméis	900	1	150	134	16	X+9/12%	220 000	250 000
19-José Francisco Leite & Cª.S.Roque.Oliveira de Azeméis	500	06	43	39	4	X+	74 000	90 000
20-Fábrica de Calçado Zetal Ltd.S.Roque. Oliveira de Azeméis	400	08	56	50	6	X+2%	40 000	45 000
21-Rosa & Junqueiro Ltd. R. Nova do Cruzeiro. O.de Azeméis	400	05	53	49	4	X+10%	27 000	30 000
22-Alcides Bastos & Dias.Santiago de Riba-Ul.Oliveira de Azeméis	600	2	162	158	4	X	162 000	200 000
23-Soc. do Calçado Femina Ltd. R.Domingos José da Costa.O.de Azeméis	700	2	90	85	5	X+2%	50 000	60 000
24-Produtora de Calçado Riba-Ul.Igreja de S.de Riba-Ul.Oliveira de A.	350	003	21	20	1	X	8 400	11 000
25-Canel-Fábrica de Calçado Ltd. Benedita	2150	9	93	79	14	X	220 000	220 000
26-Gical-Indústria Portuguesa de Calçado. Benedita	1000	7	70	65	5	X	110 000	130 000
27-Inve-Fábrica de Calçado Ltd. Benedita	1300	6	85	78	7	X+20%	150 000	400 000
28-Sicate Soc. Industrial de Calçado. Benedita	3800	01	180	162	18	X	240 000	260 000
29-Sindecal-Nova Sociedade Industrial de Calçado. Benedita	600	1,5	26	21	5	X	11 000	14 000
30-J.Moreira Ltd. Av.Dr.Magalhães. Felgueiras	400	-	40	36	4	X	60 000	65 000
31-Rolando da Cunha Melo.Carvalhinhos.Margaride.Felgueiras	600	-	70	65	5	X	50 000	60 000
32-Carlos Pereira de Castro & Irmão Ltd.Torrados.Felgueiras	1600	9,54	150	140	10	X+Bonus	253 000	320 000
33-Fábrica de Calçado dos Carvalhinhos.Ltd.Margaride.Felgueiras	3200		166	160	6	X+Bonus	230 000	250 000
34-Clemente de Freitas & Filhos.Ltd.Torrados.Felgueiras	1800	3	140	134	6	X+Bonus	230 000	230 000
35-Freitas & Teixeira Ltd.Lagares.Felgueiras	1600	9	150	145	5	X		500 000
36-Júlio Sampaio Teixeira Ltd.Lagares.Felgueiras	162	-	12	11	1	X		32 000
37-Freitas & Irmãos Ltd.Trofa.Pombeiro.Felgueiras	600	1,6	105	95	10	X+	158 000	160 000
38-Cunha & Ca.Gestinha Friande. Felgueiras	1100	0,5	70	62	8	X+7%	230 000	230 000
39-Fernando Martins Coelho & Ca. Margaride.Felgueiras	680	1,2	42	39	3	X+	23 000	42 000
40-Norberto Adélio Moreira Sampaio.Trofa.Pombeiro.Felgueiras	60	-	8	7	1	X+	4 000	9 000
41-J.Pacheco & Pachecos Ltd. Rua Gen. Torres 572/592.Vila N.de Gaia	3000	3	181	160	21	X+10%	160 000	200 000
42-Manuel Canal & Filhos Ltd.R. de Maria Bastos,Oliveira do Douro(Gaia)	650	05	64	61	3	X+10%	25 000	31 000
43-Teófilo & Moreira,Ltd.Rua da Areinha 516.Oliveira do Douro.V.N.de Gaia	400	01	82	75	7	X	45 000	66 000
44-Pinto Soares & Soares,Ltd.Rua 5 de Outubro.Avintes.Vila Nova de Gaia	900	3	75	70	5	X+20%	49 000	60 000
45-Coriedade de Calçado Olidouro,Ltd.R.do Campo Velho,30.O.Douro.V.N.Gaia	200	01	14	12	2	X	15 000	18 000
46-Fábrica de Calçado Primorosa,Ltd.Arcos do Sardão. Oliveira do Bairro.	1950	8	110	95	15	X+10/15%	85 000	85 000
47-Lopes & Filhos, Ltd.F. de Cima. Cucujães	2000	1,5	136	120	16	X+18%	120 000	120 000
48-Camilo Martins Ferreira & Filhos,Ltd.Vila Nova de Cucujães	300	1	36	35	1	X	25 000	27 500
49-António Correia Alves & Filhos.Escapães.Vila da Feira	1800	1,5	98	94	4	X	90 000	90 000
50-Sociedade de Calçado Príncipe,Ltd.Trav.Afonso de Albuquerque	600	05	92	90	2	X+	60 000	65 000
51-Oliveira Tavares & Silva,Ltd.Zona Industrial do Urreiro	1100+	018	85	80	5	X+50%	45 000	60 000
52-Almeida Portuguesa Calçado, Ltd.S.Pedro de Avioso-4470 Castelo da Maia		6	180	150	30	X+15%	170 000	235 000

SECTION 1

	X	154 000	150 000			40	180	3	40	290/ 900		45		80
	X	100 000	110 000	550		6+	150	5 years	15	800/1000	M	57		90
	X+	42 000	50 000	270		6	-	2	50	450	M.Sport	15		20
	X+	55 000	70 000	360		20	60	3	0	290/ 350	C	11		20
	X+10%	200 000	225 000	1000		12	450	4,5	95	380 /1100	Unisex	69		115
	X+10%	240 000	260 000	1200		20	500	4+	95	450/ 900	M.Flex	130		159
	X	42 000	115 000	500/ 700		15	100	3,4	97	390/ 800	C+B	37		62
	X	45 500	55 000	300		20	260	4 years	40	450/ 540	C	22		30
	X	80 000	110 000	450/ 550		30	100	0	82	500/ 650	L+Sand/ C+B	22		37
	X	95 000	95 000	450		100+	300	2	93	350/ 900	C+B	40		54
	X+	120 000	120 000	500		60	120	4,6	70	390/ 540	L+Sand/ C+B	42		60
	X+8%	100 000	110 000	500		12	140	1	80	450/ 650	L+B	49		100
	X	27 000	90 000	400		180	150	0	87	650/ 950	C	33		39
	X+10%	110 000	220 000	1200		70	70	9,2	70	360/ 850	M	55		120
	X	6 000	8 000	30/ 50		12	40	0	0	140	L+Sand	2		3,8
+30	X+10%	1,5 mill.	2 Million	5000	P.U	40	600	12	80	450/ 650	C+B	900		1400
	X	273 000	330 000	1600	PVC	10	380	14,5	70	325/ 425	C+B	48		100
	X+9/12%	220 000	250 000	1200		35	200	5 years 2,3	95	550/ 650	L	83		160
	X+	76 000	90 000	250/ 400		32	200	5 years 4,3	90	320/ 460	C	20		37
	X+2%	40 000	45 000	180/ 200		50	100	0	0	450/1450	C+B	15		23
	X+10%	27 000	30 000	120/ 140		30	60	0	18	850 1400/1600	L/B	21		43
	X	162 000	200 000	600/1300					70	250 1150/1450	L/B Sandal	57,5		160
	X+7%	50 000	60 000	250/ 350		35	120	1,5	35	1500 2800	C+B	39		110
	X	8 400	11 000	50		10	10	-	0	250/ 450 350/ 950	L/B L	5,2		13
	X	220 000	220 000	1000		6	70	0	5	450	L.Rural	39		45
	X	110 000	140 000	900	PVC	30	-	0	65	550 450	C+M M.Flex	38		92
	X+20%	150 000	400 000	1500/3000	T.R	5	100	50	70	260/ 600	M+C Sport	25		140
	X	240 000	260 000	1120		30	500	5 years	50		M.Flex M+W	75		200
	X	11 000	14 000	80/ 90		6	0	0	0	1200/1400	B.Loudy.	13		17
	X	60 000	65 000	300		12	60	0,35	0	380 550	L.Sand.	15		28
	X	50 000	60 000	200/ 300		12	-	-	50	680/1000	L.Moto. M+B	26		43
	X+Bonus	253 000	320 000	1500		40	600	4,5	60	600	M.Moto.	100		170
6	X+Bonus	230 000	250 000	1200	PVC	60	900	1+	80	500/1200	M.Flex M.Moto.	89		172
6	X+Bonus	230 000	230 000	1000		27	400	0	100	600	M.Moto.	70		118
5	X		500 000	2500	PVC	4	-	5 years	5	170/ 290	M.Sport C.Sport			90
1	X		32 000	150	P C	2		2,5	0	200	M.Boots			6
10	X+	158 000	160 000	750/ 800		20	160	1,8	45	450/ 750	M.Boots M+Moto.	56		80
8	X+7%	230 000	230 000	1000	PVC	2	150	5 years 2,3	20	300	M.Split. M.Boots	60		64
3	X+	23 000	42 000	200		14	86	5 years 2,3	40	580/1300	M+L	13,8		26
1	X+	4 000	9 000	200		15	10	1,7	0	200/ 350	M+C	1,8		2,8
21	X+10%	160 000	200 000	900	Rubber	300	600	1	70	300/ 950	C+B	65		100
3	X+10%	25 000	31 000	140		30	300	0,2	0	800/ 950	L	17		23
7	X	45 000	66 000	210/ 300		15	145	2	70	750/2000	L L/B+Sand.	24,5		36,5
5	X+20%	49 000	60 000	220/ 350		120	200	0,6	20	1600 1700 400 550	C+B C+Sand. M+Golf.	24,5		45
2	X	15 000	18 000	80/ 110		13	30	0,4	0	1100 400/ 850	L/B L	7		14
15	X+10/15%	85 000	85 000	400		30	80	0	30	350/ 630	L	56		64
6	X+18%	120 000	120 000	500/ 600		100+	200	10	60	500/1200	M L+Sand.	47		82
1	X	25 000	27 500	150		15	120	0,5	45	1450 1450	Moccasin L	30		40
4	X	90 000	90 000	400		85	200	0	10	430/ 900 1000	C+Sand. M+Moto.	28		50
2	X+	60 000	65 000	300		25	160	-	60	1000 1100	L L/B	42		100
5	X+30%	45 000	60 000	300/ 320		60	280	6	30	1000 1550	L/B	42		71
	X+12%	170 000	235 000	1000/1100		20	363	4,5	90	500/ 800	L Sandals	-		-

SECTION 2

1-A.Bento[illegible] & Cunha,Alcanena		24	21	3	360					Wet-blue
2-Alves [illegible] de Mira de Aire,Vale Covo	12	4	3	1						Glove leather, [illegible]
3-António Pinto de Carvalho,Curtumes,Ltd.Alcanena	2500	105	84	12	1600				37	Aniline leather, sheep skins for suede leather
4-António Pereira Ferreira,Ponte do Outeiro,Alcanena		1			~0					Side leather,Split and rustic leather,leather for sole
5-Constantino Vaz Pinto & Filhos,Ltd.Alcanena	1220	13	10		1800 kg			14,5		Garment leather,Aniline,semi-aniline,Nubuck,semi aniline
6-Curtumes [illegible] & C[illegible],Alcanena	7520	90			1800					Semi-aniline
7-[illegible] & Filhos,V.Pereira,Alcanena	52	40	34	17	1777					Aniline leather,Rectified,Semi-aniline,
8-Joaquim Anastácio Caetano & Filhos,Alcanena	400	50	42	8	1130	77/78- 7			50	Aniline and rectified,Split for lining and boots,Sealskin calf,Veal calf,Core hide,
9-Joaquim [illegible] Duarte & Filhos,Alcanena	250	35	27	3	27000 kg	77/78- 1,5	1,5	23		Vegetal bends
10-Joaquim [illegible] & C[illegible],Ltd.Alcanena	240	33	28	4	1200	74/78-15	8			Rustic leather,Embossed leather,Split
11-José António Ferreira Sierra,Ltd.Alcanena	300	35	24	3	150 13 kg	77/78- 1,5		25	50	Side leather,Sole leather,Aniline and rectified
12-José Lopes & Filhos,Ltd. Moitas Venda,Alcanena	420	31	26	4	1000	77/78- 4	7			Side leather rectified,Suede full grain aniline,Split s
13-José Reis Marques & C[illegible],Ltd,Moitas Venda,Alcanena	2450	21	18	3	350	77/78- 4	4,5		100	Side leather semi-aniline,Sheep skins,Side leather lin Sheep skin lining
14-Manuel Branco de Oliveira Filhos,Ltd.Alcanena		4	4	6	1500	77/78- 5,8				Fine grain nubuk of leather for ladies'shoes and boots leather for leather clothing
15-Manuel Fernandes Abreu,Alcanena	400	13	12	3	300					Goat skins for exclusions
16-Manuel Jorge Leite & Filhos,Ltd.Moitas Venda,Alcanena	1000	13	9	4	400					Bellies for lining leather,Painted lining
17-Patrício da Silva Luís & Filhos,Ltd.Alcanena	6000	13	10	2	6000 kg	76/78- 1,5				Aniline side leather,Natural grain and rectified Split sole leather
18-Policarpo Patrocínio Pereira,Seridos,Alcanena	2000	37	31	6	800	78 - 5				Aniline,Semi-aniline leather,Pigmented lining
19-Polijalfe-Indústria de Curtumes,Ltd.V.N.Alcanena	7000	88	70		550 400 kg					Sole leather bends and bellies
20-Rocha Pinto Filhos de Curtidos de Alvaiela,Alcanena	115	28	23	8	620					Lining and upper split,Calf leather
21-António de Rezende Leite & C[illegible],Ltd,Lordelo,Porto		61	50	11	1,000					Nubuck full grain and aniline,Rectified side leather Insole split sprayed and emboss
22-Curtumes Guilherme Augusto de Oliveira Gama,Porto		90	70	20	2000					Side leather suede and hunting,Split,Full grain a Semi-aniline and harness leather,Pigmented embossed s Fashion nubuck,Pigmented side leather,Current leather
23-Curtumes Ribeiro-Industrias CARL-Cir.9020,Porto		232			7487,644 267373					Sole leather,Full grain and rectified side leather,Sp split,Nubuck
24-Nova Empresa Industrial de Curtumes CARL,Porto		143	118	25	3300					Aniline leathers,Nappa aniline for garment,Calf leather for upper and for lining,Side leather
25-[illegible] de Curtumes Paulo da Silva R,Matosinhos,		138	125	13	2860					Patent and harness leather
26-Fabrica de Curtumes Valbom-R.V.da Gama,Valbom,	7000	54	43	11	1100 2000000 kg	78 - 4,5				Hides aniline,Calf correcto,Crupon sole leather(3 1/2 mm for [illegible] (3 1/2 mm),Bellies for insoles, Upper and Split
27-Amadeu Miranda & Filhos,Ltd.R.da Madroa,Guimarães	1800	12	8	4	400					Rustic and embossed leather split (1,5 mm and less)
28-Fabrica de Curtumes da Penaleva de Guimarães,Guimarães		48	40	8	1300					Aniline, semi-aniline,Rural leather,Lining, split,Split
29-Fabrica de Curtumes de Polvim,Guimarães	6000	68	58	4+4+2	2500					Cows and calf leather,Aniline,Split for upper lining
30-António da Silva Reis,Sucrs.,Ltd,V.Verde da R,Seia		19	13	2+4	600	78 - 1	2			Sheep skins for upholstery and goat skins for shoe pr
31-Curtumes Fabrício L. dos Santos,Vila V. da R,Seia	3000	24	17	7	1000	77/78- 6	6			Goat skins for shoe product,Sheep lining,Nappa for garm Sheep skin for upholstery
32-Joaquim Lopes Alcafache & Filhos,Ltd.	3614	34	30	4	950	78 - 3,5		11	100	Cow hides and goat skins for upholstery and lining
33-Fábrica de Curtumes de Coimbra,Ltd,Coimbra	4000	109	100	9	1180 1780,0 kg	78 - 5,5	6-7			Cow hides for the shoe and bag industries,Sole leathe Side leather,Box calf,Suede shoulders
34-Joaquim Dias Amado,Sucrs.Ltd,Sacém	6200	103	85	18	1805,197		22			Suede leather for garment,Aniline side leather,Full g and rectified,Gold and silver leather
35-Henrique Rodrigues dos Santos, Sacavém	8000	80	69	11	1800		2,8			Split,Rectified aniline,Semi-aniline

SECTION 1

Wet-blue	Plans to set [illegible]
Glove leather, [illegible] gloves outside the [illegible]	[illegible] glove[illegible] of the best qualities [illegible]
Aniline leather, shoes, value [illegible] goat skins 4%, cows 1%	[illegible]
Side leather, Split and rustic leather, Leather for saddles	No splitting machine
Garment leather, Aniline, Semi aniline, Embossed aniline, Split	Special factory for sole leather, [illegible] hides for up to five months. [illegible]
Semi-aniline	
Aniline leather, Rectified, Semi-aniline,	Old tannery in many rooms poorly distributed, lots of pallets awaiting to be elaborated
Aniline and rectified, Split for lining and boots, Semi-aniline calf, Veal calf, Cow hides,	Have a leather called "Miraje" rectified embossed good quality
Vegetal tends	No permanent book-keeper, No tanning yet a
Rustic leather, Embossed leather, Split	The quality is low/medium
Side leather, Sole leather, Aniline and rectified	In 79 expansion 1.000 m2 and planned 50% more production.
Side leather rectified, Some full grain aniline, Split suede	Up to date in machinery. The appearance of leather is good.
Side leather semi-aniline, Sheep skins, Side leather lining, Sheep skin lining	Many new girls and boys as apprentices. Instability [illegible] suitable.
Fine grain embossed leather for ladies' shoes and boots and leather for leather clothing	Leather for leather garment is good. The split is not up to the same standard
Goat skins for moccasins	Have a new factory 1.000 m2, good quality. The owner, his wife and [illegible] work in the factory.
Bellies for lining leather, Painted lining	Have plans to increase the production. Will invest [illegible] contos. Problems with electricity and water.
Aniline side leather, Natural grain and rectified, Split and sole leather	Problems with book-keeping and to calculate prices.
Aniline, Semi-aniline leather, Pigmented lining	
Sole leather bends and bellies	Good quality in bends and bellies. 3-4 days for green [illegible] for dry hides
Lining and upper split, Calf leather	Have a department for chemicals. Production very [illegible]
Nubuck full grain and aniline, Rectified side leather polyamil. Insole split sprayed and embossed	Difficulties in buying raw hides for aniline leather.
Calf side leather suede and hunting suede, Full grain aniline, Semi-aniline and harness leather, Pigmented embossed split, Fashion nubuck, Pigmented side leather, Garment leather	Very well equipped factory and clean. Producing a good quality leather. Several machines for vacuum drying. Good factory.
Sole leather, Full grain and rectified side leather, Upper split, Nubuck	15% absenteism. 1 shift (normal) + 1 minor night shift (6 hours) but with fewer workers.
Aniline leathers, Nape aniline for garment, Calf leather, Split for upper and for lining, Sole leather	Building 1920. Equipped for vegetable tanning but that part very little used. No future without total renewal.
Patent and harness leather	Produces also for plastic industry and textile. Harness line of machines are complete. Export. A new building for pre tanning constructed.
Box shanks, [illegible] corrected, Crupon sole leather (3 1/2 mm), Shoulders for [illegible] (3 1/2 mm), Bellies for insoles, Upper and lining [illegible]	Orders for six months. Pay bonus for certain productions.
Rustic and embossed leather split (1,5 mm and less)	
Aniline, Semi aniline, Rural leather, Lining split, Split for [illegible]	Old machinery. Payment 1-6 months
Cows and calf leather, Aniline, Split for upper lining, Nubuck	80% production goes to factories for export, six weeks orders.
Sheep skins for upholstery and goat skins for shoe production	
Goat skins for shoe product, Sheep lining, Nape for garment, Sheep skin for upholstery	The factory tries to improve the production facilities. Manager trained in U.S.A.
Cow hides and goat skins for upholstery and lining	All production sold to wholesaler in S. João da Madeira
Cow hides for the shoe and bag industries, Sole leather, Side leather, Box calf, Suede shoulders	Orders for two months. Increased their production continually in the last three years.
Suede leather for garment, Aniline side leather, Full grain and rectified, Gold and silver leather	Suede leather for garment excellent. One of the best leathers produced in Portugal. Plans to renew machinery to improve quality and production.
Split, Rectified aniline, Semi-aniline	Split is good. Other leather medium quality. Old machinery.

SECTION 2

Annex 4.

FORMATION DEPARTMENT

Centre: S.João da Madeira

Courses in:

CLOSING ROOM ACTIVITIES	-Natàlia de Oliveira- Monitor
CUTTING	-Leonel Correia- Skilled Worker
PREPARATION and LASTING	-Cipriano Freitas- Monitor
PRACTICAL TEACHING	-José Nogueira- Skilled Worker
PATTERN CUTTING	-José Junqueira- Monitor
SUPERVISORS	-Arlindo Martins- Teacher

Oliveira do Douro Department

Courses in:

CLOSING ROOM ACTIVITIES	-Olivia Rodrigues- Monitor

Felgueiras Department

Courses in:

CLOSING ROOM ACTIVITIES	-Fátima Leite- Skilled Workwoman

FOREMAN- Manuel Oliveira Santos

ADMINISTRATIVE SECTOR

Expedient- 3 persons

Account Section- 2 persons

Clean Staff- 3 persons

Storehouse- 1 person

C.F.P.I.C = Training Centre for Shoe Industry

MAP OF THE COURSES TO 1979/1980

Day Courses

COURSE	TYPE OF THE COURSE	INSCRIP-TIONS UNTIL:	STARTING TIME	END OF THE COURSE	NUMBER OF STUDENTS	ALLOWANCES	
						1.500$00/month	2.000$00 month
6th	Cutting	----	----	28-6-79	12	4 initial months	THE LEFT MONTHS
7th	Cutting	2-7-79	3-9-79	--/6/80	15	4 initial months	
15th	Closing Room	----	----	23-2-79	10	4 initial months	
16th	Closing Room	1-2-79	5-3-79	31-1-80	10	4 initial months	
14th	Closing Room (Oliveira do Douro)	----	----	31-10-79	12	4 initial months	
15th	Closing Room (Oliveira do Douro)	1-10-79	5-11-79	--/9/80	12	4 initial months	
7th	Closing Room (Felgueiras)	----	----	28-6-79	12	4 initial months	
8th	Closing Room (Felgueiras)	2-7-79	3-9-79	--/6/80	12	4 initial months	
6th	Preparation and Lasting	----	----	12-7-79	20	4 initial months	
7th	Preparation and Lasting	2-7-79	3-9-79	--/6/80	20	4 initial months	
1st	PRATIK Lasting	4-12-78	8-1-79	31-5-79	8	2 initial months	
2nd	PRATIK Lasting	2-7-79	3-9-79	31-10-80	10	2 initial months	
3rd	PRATIK Lasting	31-12-79	--/2/80	--/6/80	10	2 initial months	
1st	Pre-fabricated	5-1-79	5-2-79	31-5-79	6	1 initial month	
2nd	Pre-fabricated	4-10-79	5-11-79	--/2/80	6	1 initial month	

MAP OF THE COURSES TO 1979/1980

Evening Courses

COURSE	TYPE OF THE COURSE	INSCRIP - TIONS UNTIL:	STARTING TIME	END OF THE COURSE	NUMBER OF STUDENTS	MONTHLY TO BE PAID	COST OF THE INSCRIP - TION
14th	Pattern Cutting	----	----	7-7-79	15	400$00	----
15th	Pattern Cutting	5-2-79	5-3-79	--/7/80	15	400$00	----
4th	Supervisors	----	----	31-10-79	15	200$00	----
5th	Supervisors	31-8-79	1-10-79	--/10/80	15	200$00	----
1st	Cementing	20-3-79	28-3-79	30-3-79	25	----	1.000$00
2nd	Cementing	20-11-79	28-11-79	30-11-79	25	----	1.000$00

COURSES EXECUTED AT C.F.P.I.C

(Evening Courses)

Conditions for Admission

The students must:

-Be over 18; -have the minim qualifications required by law; -pass the psycho-technical and medical tests of the Employment Board; -accept the monthly payment.

PATTERN CUTTING COURSE

Duration of the Course: 16 months - 192 hours.

Programme

PRACTICAL TEACHING:

-Geometric design; -preparation of patterns; -pattern grading in the mechanic panthograph; -pattern development; -cutting, closing and assembling of various patterns; -work schedules prepared with technical drawings; -execution of the final test of patterns; -preparation of the collection.

TECHNOLOGY:

-of materials and acessories; -of tools; -of machinery; -of the production processes.

ORGANIZATION OF THE WORK:

-Job description; -information on the Organization of Industrial Work.

GENERAL FORMATION:

-General information on geometric design and others; -general notions of mathematics; -conversion of unities between the decimal system and the English one; -developing of personality.

SUPERVISORS COURSE

Duration of the Course: 12 months - 144 hours.

Programme

ORGANIZATION:

-Human relations; -leadership; -cases study; -knowledge of the firm; -study of movements; -simplification of the work; -work study; -quality control; -planning; -safety; -training the personnel in the firm.

TECHNOLOGY:

-of raw materials and acessories; -of machinery and tools; -of production processes.

FACTORY:

-manual training on production machines; -machines study; -job description study; -processes study; -production of various patterns from cutting, closing, assembling to finishing; -supervision of work under industrial conditions.

COURSE ON CEMENTING

Duration of the Course: 3 days.

Programme

PRACTICAL TEACHING:

-information on temperature heat settlers; -check of roughing; -in the use of cements; -chemical products used in cements; -materials used in cement production; -visit of a cement factory; -test the resistance of cements used with various materials.

TECHNOLOGY:

-of raw materials of cements; -of materials for cementing in shoe industry; - of roughing processes; -in the use of cements; -of reactivation; -of mechanical tests; -of de-cementing analysis and their causes.

COURSES EXECUTED AT C.F.P.I.C

(Day Courses)

Conditions for Admission

The students must:

-Be over 15 and under 18; -have the minim qualifications required by law; -pass the psycho-technical and medical tests of the Employment Board.

UPPER LEATHER CUTTING

Duration of the Course: 10 months - 45 hours a week.

Programme

PRACTICAL:

-Grading of the collections; -splitting of upper leather; -machine marking; -cutting with hydraulic press; -hand-cutting of various materials; -gest gymnastic.

TECHNOLOGY:

-of raw materials and accessories; -of tools; -of machinery; -of manual and mechanical cutting processes.

ORGANIZATION OF THE WORK:

-material economy; -study of movements; -job description; -production and motion time.

GENERAL FORMATION:

-Hygiene and basic Education; -general notions of mathematics; -consumption calculation and conversion of unities between the English and decimal systems; -developing of personality.

CLOSING

Duration of the Course: 10 months - 45 hours a week.

Programme

PRACTICAL:

- skiving by hand and by machine; -folding by hand and by machine; -stitching: on a flat machine; on a zig-zag machine; on a two-needle machine; on a trimming machine; on a post machine; on a post and channelling machine; on a device machine; - perforating by machine with various tubes; -thread up; -to lace uppers; -gest gymnastic; -stitch moccasins by hand.

TECHNOLOGY:

-of tools; -of machinery; -of production processes of various patterns.

ORGANIZATION OF THE WORK:

-Material economy; -study of movements; -job description; -production and motion time.

GENERAL FORMATION:

-Hygiene and basic education; -general notions of mathematics; -developing of personality.

ASSEMBLING COURSE

Duration of the Course: 11 months - 45 hours a week.

Programme

PRACTICAL:

-Machine cutting of insoles, soles, counters and toe-puffs; -fix insoles; -channel insoles; -skive toe-puffs and stiffeners by machine; -apply cement by hand and by machine; -sole splitting by machine; - skiving shank parts and heels by hand and by machine; -take out wrinkles; -to pone and rough by machine; -reactivate cements; -pattern grading; -pre-sole trimming; -to take out of mould and clean; -polish upper leather and heels; -position and nail heels by machine; -iron by machine; -polishing and cleaning; - machine sewn; -position rands by hand and by machine; -lace and place in box; - open and close channels; -settle and level soles by machine; -polish and finish soles by machine.

TECHNOLOGY:

-of tools; -of machinery; -of raw materials and accessories; -of mechanical processes; -of cements.

ORGANIZATION OF THE WORK:

-study of movements; -job description; -material economy; -production and motion time.

GENERAL FORMATION

-Hygiene and basic education; -general notions of mathematics; -developing of personality.

ASSEMBLING PRACTICAL COURSE

Programme

PRACTICAL:

-machine cutting of insoles,soles,counters and toe-puffs; -prepare insoles; -prepare soles and heels; -cement by hand and by machine; -skiving of toe-puffs and counters by hand and by machine; -cement uppers; -sole splitting by machine; to fix and settle uppers; -skiving by machine; -machine channelling; -closing with or without welt; -roughing heels by machine; -take out wrinkles and bend by machine; -reactivate cements; -grading patterns; -papper and level by machine; -clean ,polish and take out of a mould by machine; -finish and spray by pistol; -lace and place in box.

TECHNOLOGY:

-of tools; -of machinery; -of raw materials and accessories; -of mechanical practical processes; -of cements.

ORGANIZATION OF THE WORK:

-job description; -study of movements; -material economy; -production and motion time.

GENERAL FORMATION:

-Hygiene and basic education; -general notions of mathematics; -developing of personality.

PRE-FABRICATED COURSE

Duration of the Course: 4 months - 45 hours a week.

Programme

PRACTICAL

-cutting of soles,insoles,counters and toe-puffs by machine; -sole splitting by machine ; -pre-sole trimming by machine; -skiving of shank parts,toe-puffs and stiffners by machine; -prepare heels; -roughing soles by machine; -inking and setting by machine; -position rands by hand and by machine; -prepare heels; -settle and nail heels; -trimming by machine; -papper by machine; -spray by pistol,polishing and ironing; -prepare patterns; -grade patterns.

TECHNOLOGY:

-of raw materials and accessories; -of tools; -of machinery; -of sole processes production; -of cements.

ORGANIZATION OF THE WORK:

-Job description; -of study of movements; -of material economy; -of production and motion time.

GENERAL FORMATION:

-Hygiene and basic education; -general notions of mathematics; -developing of personality.

Annex 5.

SALARY SCALE DATED 15 NOVEMBER 1979

FOR THE SHOE INDUSTRY

PROFESSIONAL CATEGORIES	WAGES SCALE Esc.
Technician	14.000$00
Pattern Cutter	13.500$00
Supervisor	11.400$00
Factory Planner	10.750$00
Time Study Man	10.750$00
Quality Controller	10.750$00
Work Study Man	10.750$00
Second Pattern Cutter	10.400$00
Second Time Study Man	10.000$00
Skilled Worker	10.500$00
First Class Worker	10.400$00
Second Class Worker	10.000$00
Third Class Worker	8.900$00
Second Year Pre-Operator	7.000$00
First Year Pre-Operator	5.800$00
Second-Year Apprentice	4.500$00
First-Year Apprentice	3.750$00
Supervisor Woman	9.900$00
First Class Workwoman	9.000$00
Second Class Workwoman	8.600$00
Third Class Workwoman	7.700$00
Second Year Pre-Operator Woman	6.500$00
First Year Pre-Operator Woman	5.650$00
Second-Year Apprentice Woman	4.500$00
First-Year Apprentice Woman	3.750$00

Over Twenty Years : 7500 $00 (minimum wage)

Eighteen to Twenty Years : 75% of minimum or 5635$00.

Under Eighteen Years : 50% of minimum or 3750$00.

1 US $ = 50 Esc..

Annex 6

NAME OF FIRM AND LOCATION	ACTUAL COVERED AREA IN M2	AREA TOTAL AFTER EXPANSION	NEW FACTORY IN M2	INVESTMENT IN BUILDINGS IN CONTOS	INVESTMENT IN MACHINERY IN CONTOS	ACTUAL EMPLOYEES	AFTER EXPANSION	ACTUAL PRODUCTION	AFTER EXPANSION	TYPE OF FOOTWEAR
1-Fábrica de Calçado dos Carvalhinhos Margaride.felgueiras	1200	1800		10000	10000	166	240	250.000	800.000	1400 p/d men's Veldtschoen 1200 p/d men's cemented shoes 100 p/d men's moccasins
2-Carlos Pereira de Castro & Irmão,Ltd. Torrados.Felgueiras	1300	2250	950	5000/ 6000	6000/ 8000	150	220	320.000	740.000	1600/2000 pairs daily of cemented men's shoes 1200 pairs of moccasins
3-Almeida Bastos & Dias Oliveira de Azeméis			2400	2500	5000	162	180	200.000	560.000	1500 pairs/day of cemented ladies' boots and shoes 1000 pairs/day of Veldtschoen
4-José Francisco Leite & Ca. Oliveira de Azeméis	500	632		3000	10000	43	70	90.000	225.000	1000 pairs/day of children's Veldtschoen and slip-lasted shoes
5-Sociedade de Calçado Príncipe,Ltd. S.João da Madeira			1800	8000	5000	92	92	65.000	135.000	500/ 600 pairs daily of cemented ladies' shoes
6-Gical-Indústria Portuguesa de Calçado Benedita	1000	1450		800	3000/ 4000	74	120	180.000	400.000	700/1000 pairs/day of men's Veldtschoen 500 pairs/day of cemented men's shoes 300 pairs/day/men's inj.-moulded shoes
7. Nicolex Ltd. S.Joao da Madeira	1300	1300			5000	94	104	90000	225000	500 pairs/day children's cemented 500 pairs/day children's calif.
				30300	47000	781	1026	1195000	3085000	

ANNEX 7

UNITED NATIONS

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO 1 June 1979

Request from the Government of Portugal
for Special Industrial Services

INTERNAL

JOB DESCRIPTION

SI/POR/79/801/11-01/31.7.D

Post title	Footwear Industry Consultant
Duration	Three months
Date required	June 1979
Duty station	Lisbon, with travel within the country.
Purpose of the Project:	To assess the actual situation in the leather and footwear industry and to recommend measures to be taken to reach higher productivity levels and reinforce the competitive capacity of the country's shoe manufacturers, especially in the export markets.

Duties: The expert will be attached to the Direcçao-General das Industrias Transformadoras Ligeiras (D.G.I.T.L.) and direct the work of a counterpart team conducting a survey of the leather and footwear industry structure. The consultant will specifically be expected to:

Study the following particular areas and make recommendations for action to be taken:

1. The product development and tooling of the shoe industry.
2. The production technology, machinery and equipment and their maintenance.
3. The role of supporting industries such as tanneries and component industries, particularly from the co-operational point of view.
4. Quality control.
5. Training of personnel at all levels.
6. Shoe industry costing.

Applications and communications regarding this Job Description should be sent to:

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, P.O. Box 707, A-1010 Vienna, Austria

The expert will also be expected to prepare a final report setting out his findings and recommendations for the Government for the starting of an action-orientated programme.

Qualifications: Extensive experience in shoe industry planning, product development, production technology, quality control, labour training and costing.

Language: English. Portuguese or Spanish an asset.

Background Information: The poor industrial structure of the Portuguese Tanning and Shoe Sector and the low existing levels of productivity force the Department of Public Administration to implement, within short terms, the re-organization of the productive apparatus, so as to reach higher productivity levels and to reinforce the companies' competitive capacity.

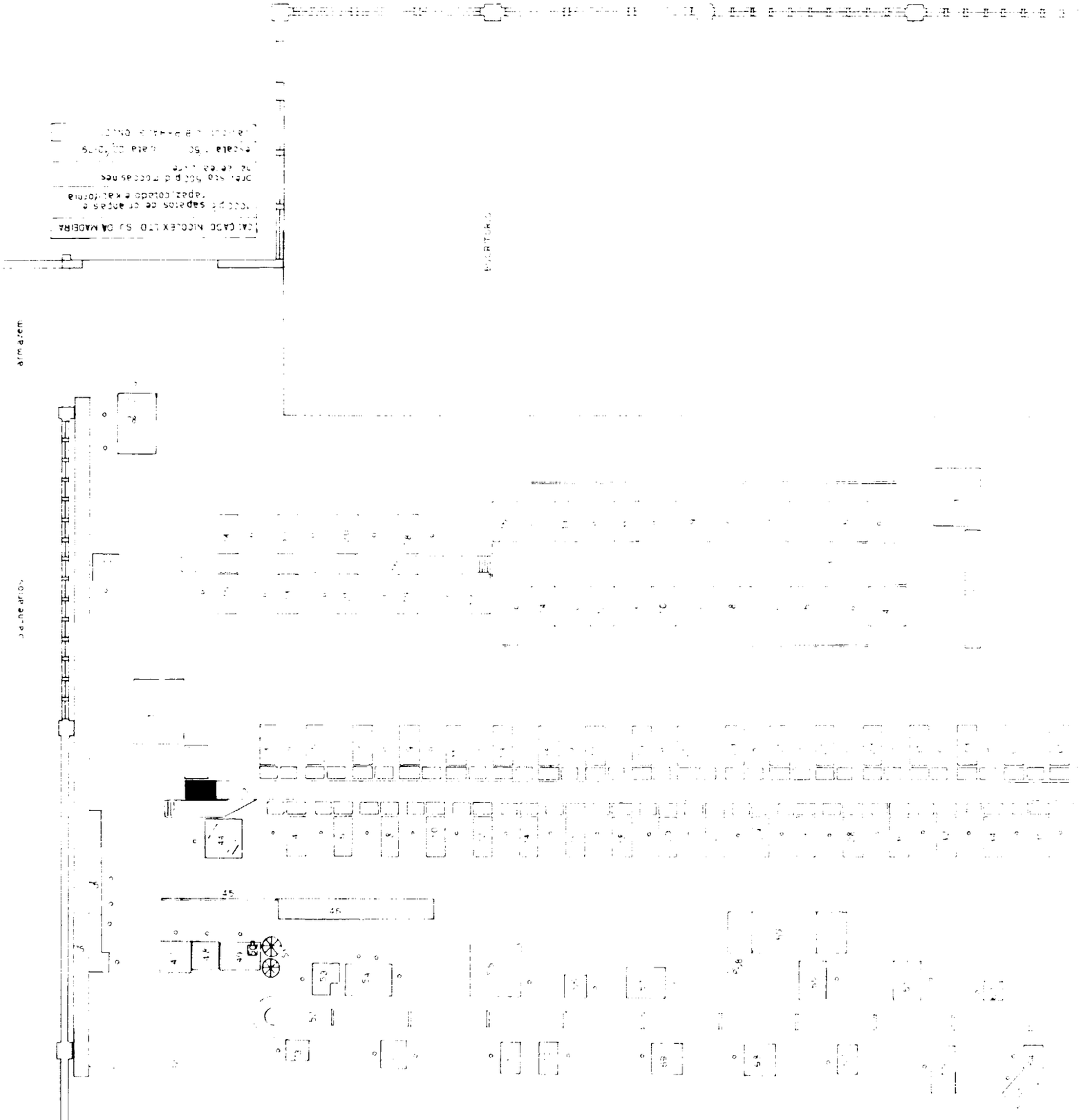
Taking into consideration the lack of adequate and up-to-date data of the sector, the first priority will be a thorough study to assess the actual situation and further prospects of this sector correctly.

The study of the sector will be made under direct responsibility of the D.G.I.T.L. (Direcção-General das Industrias Transformadoras Ligeiras), and UNIDO's assistance for the study was requested on 4 January 1979.

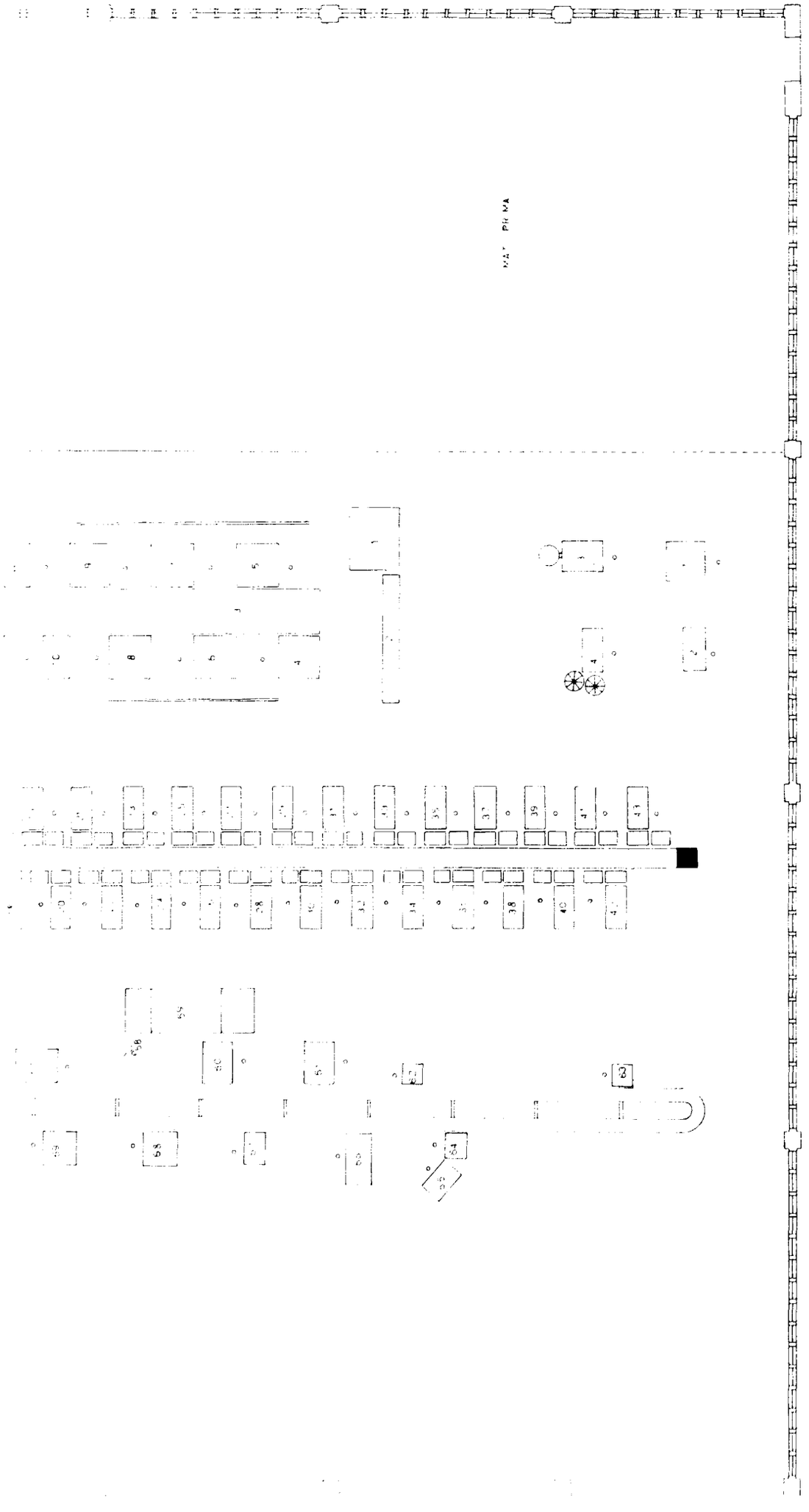
UNIDO project SI/POR/79/801 with a total UNIDO contribution of US$15,800 was approved on 23 January 1979. The project inputs consist of one UNIDO staff member visit to Portugal for a one-week preliminary mission and a three-month mission of a footwear industry consultant to assist the leather and footwear industry sector.

The report is based on the one-week UNIDO staff member mission carried out during the period of 18 - 23 February 1979.

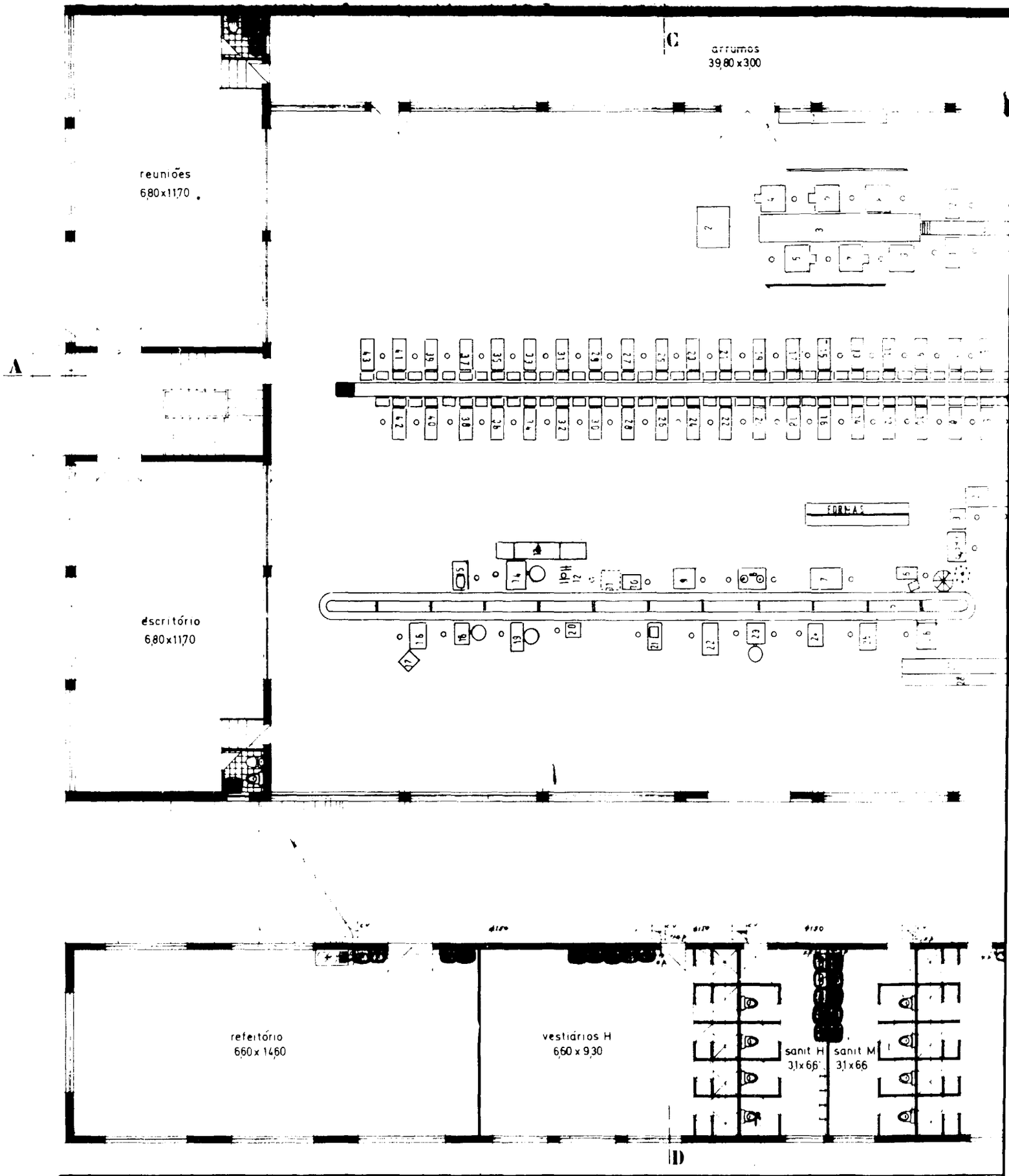
NO CANDIDATES REQUIRED AT THIS TIME



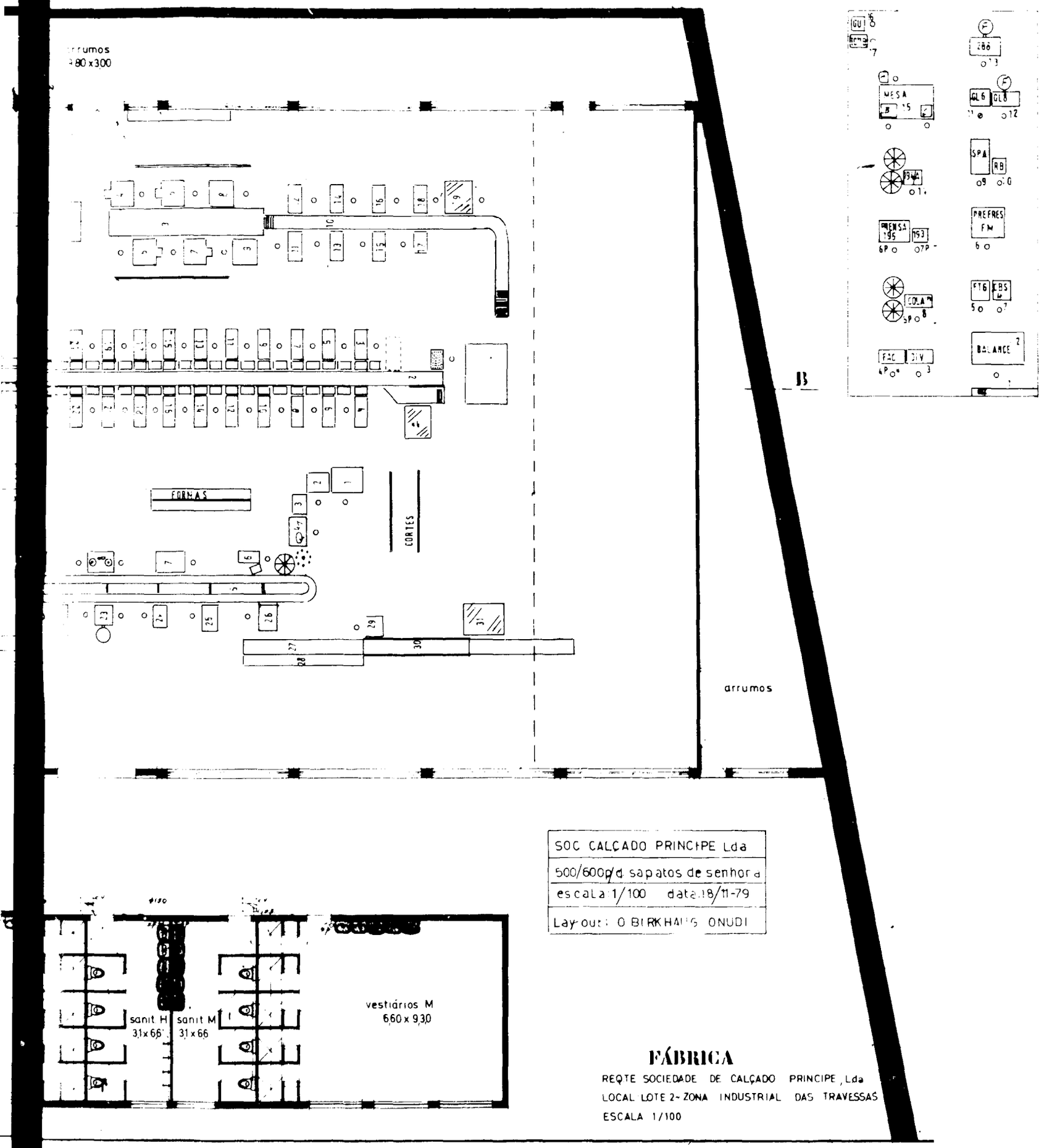
SECTION 1



SECTION 2


C
arrumos
39,80 x 3,00
reuniões
6,80 x 11,70
A
escritório
6,80 x 11,70
FORMAS
refeitório
6,60 x 14,60
vestiários H
6,60 x 9,30
sanit H
3,1 x 6,6
sanit M
3,1 x 6,6
D

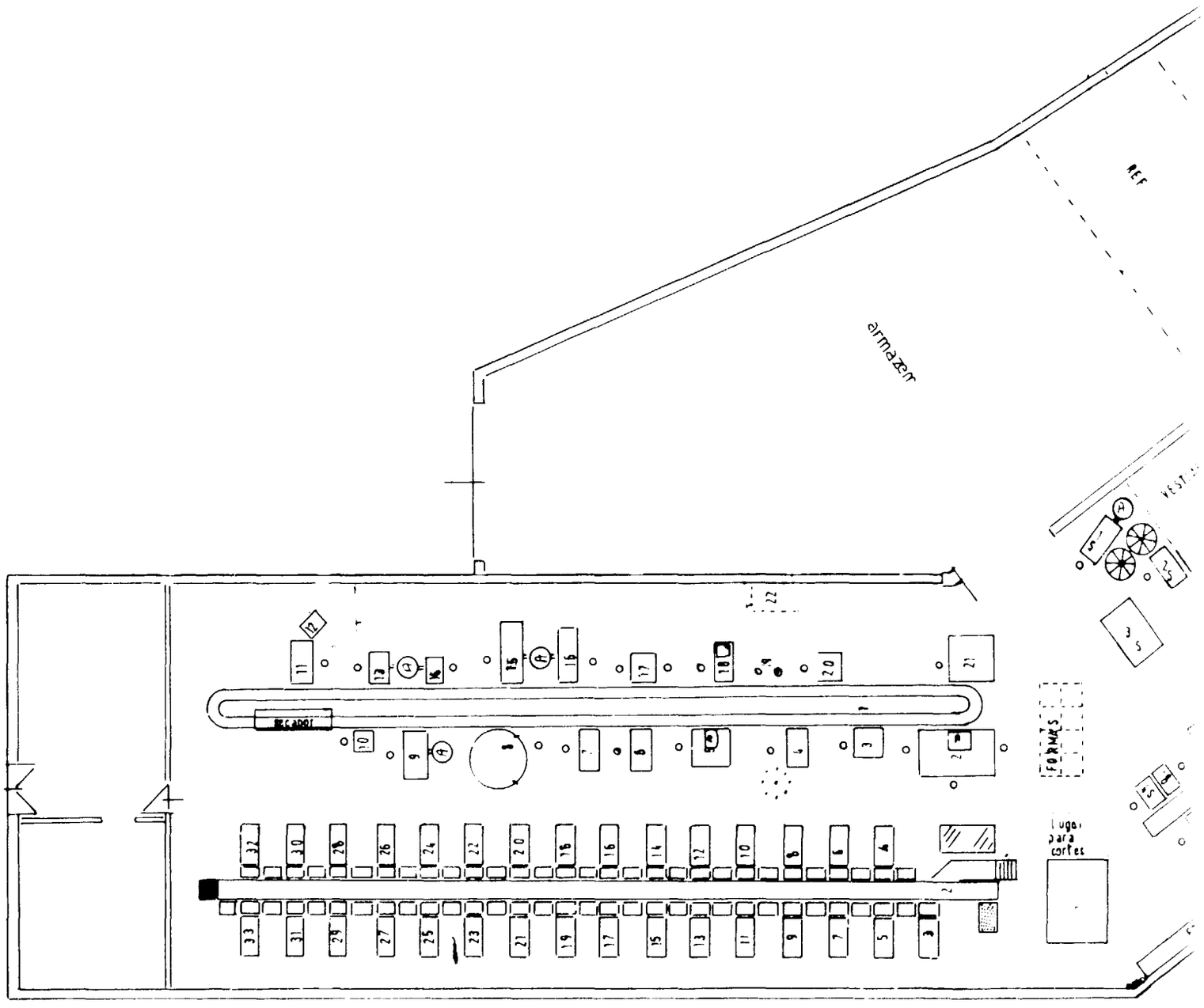
SECTION 1



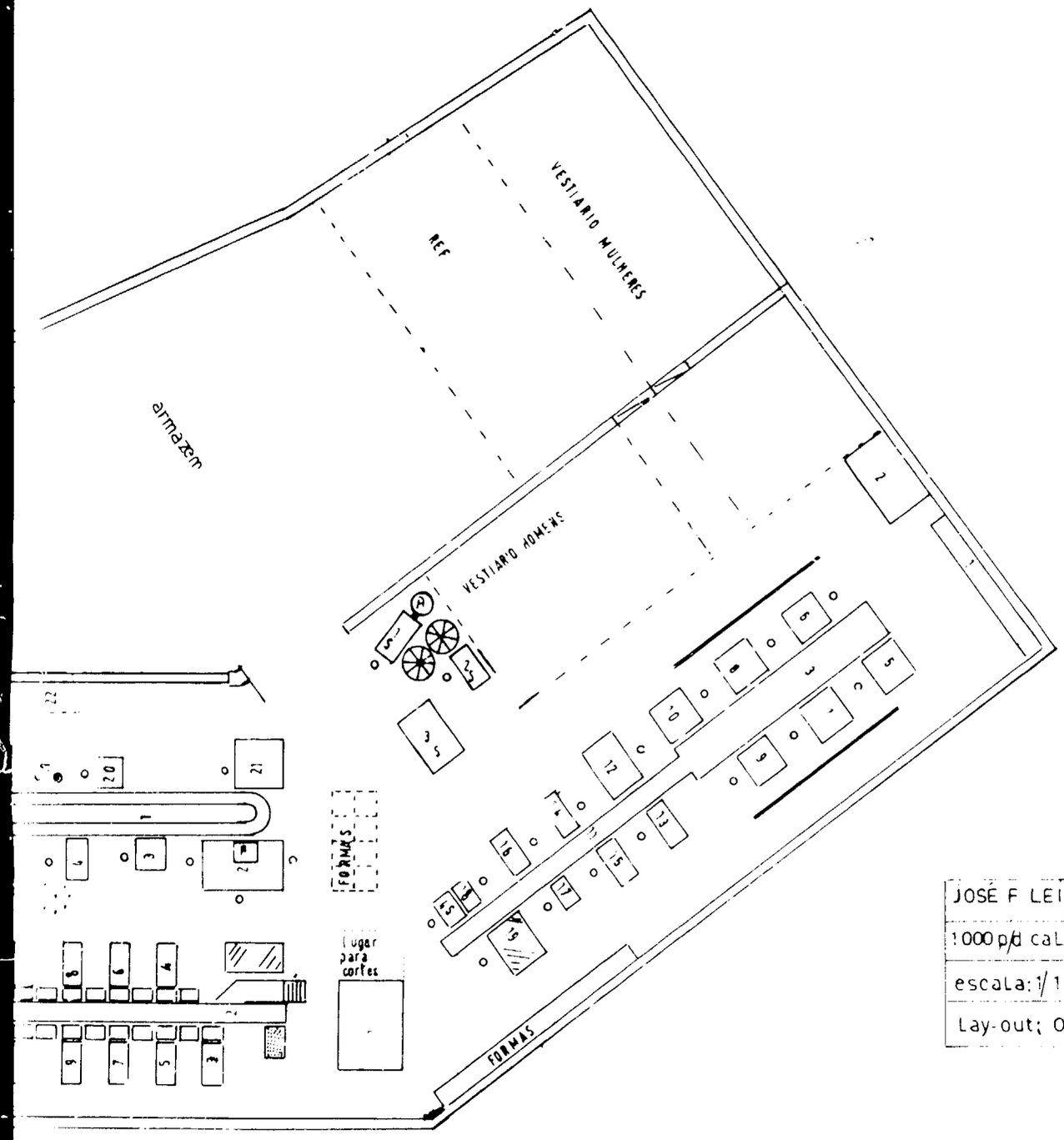
FÁBRICA

REQTE SOCIEDADE DE CALÇADO PRINCIPE, Lda
LOCAL LOTE 2 - ZONA INDUSTRIAL DAS TRAVESSAS
ESCALA 1/100

SECTION 2

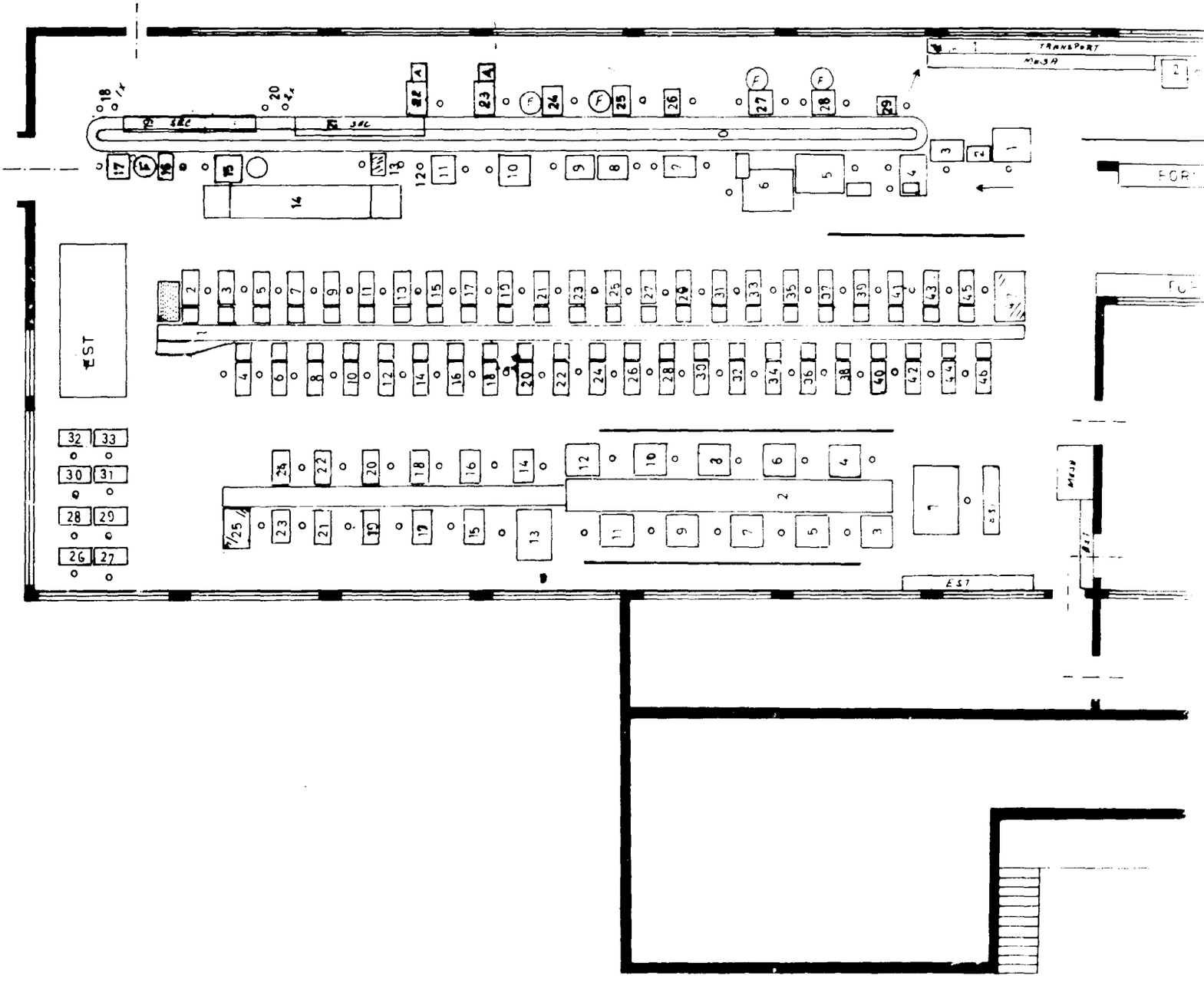


SECTION 1

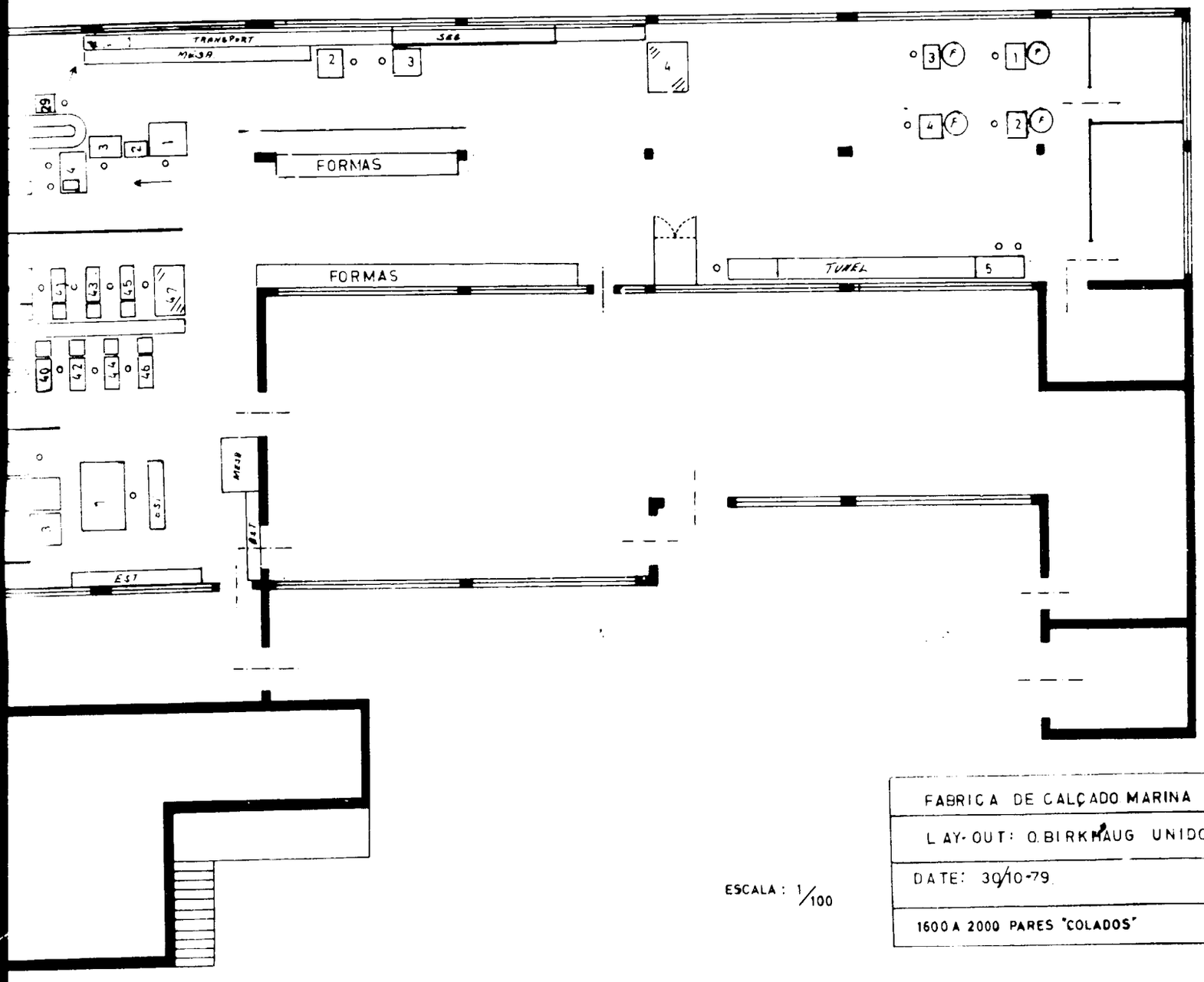


JOSÉ F LEITE, Lda
1000 p/d california e pratik/criança
escala: 1/100 data: 22/11-79
Lay-out; O BIRKHAUG, ONUDI

SECTION 2



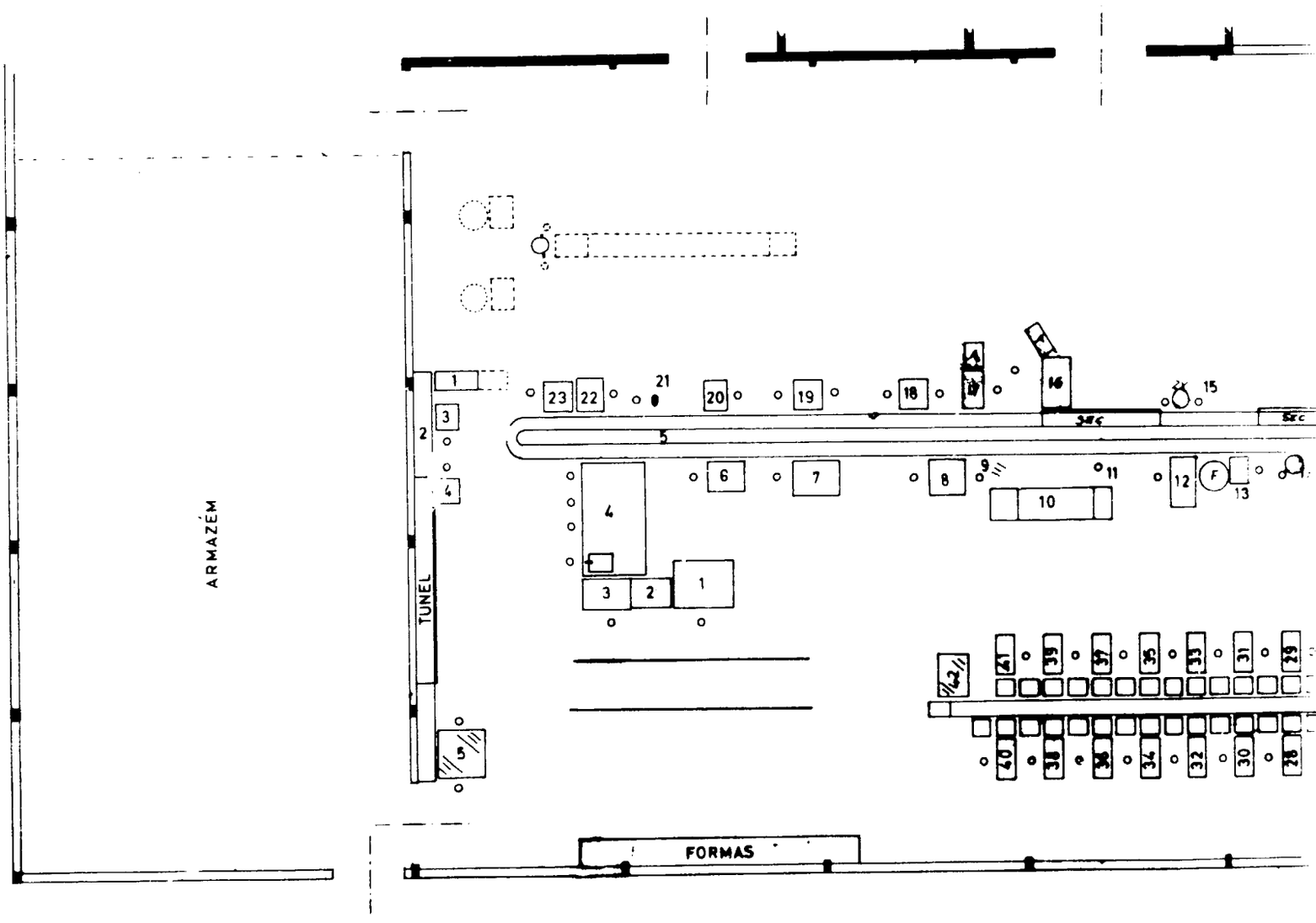
SECTION 1



FABRICA DE CALÇADO MARINA
LAY-OUT: O. BIRKMAUG UNIDO
DATE: 30/10-79
1600 A 2000 PARES "COLADOS"

ESCALA : 1/100

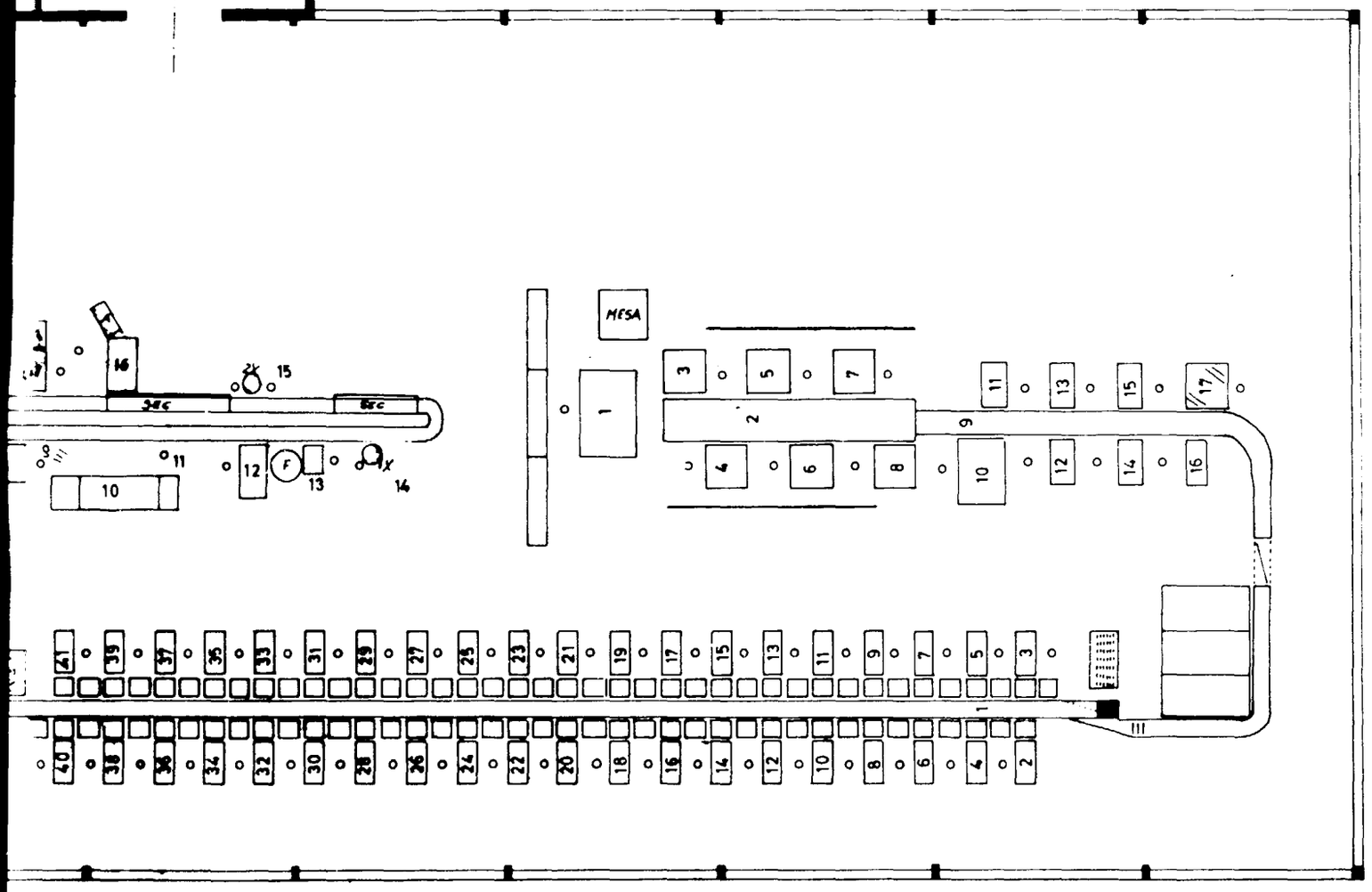
SECTION 2



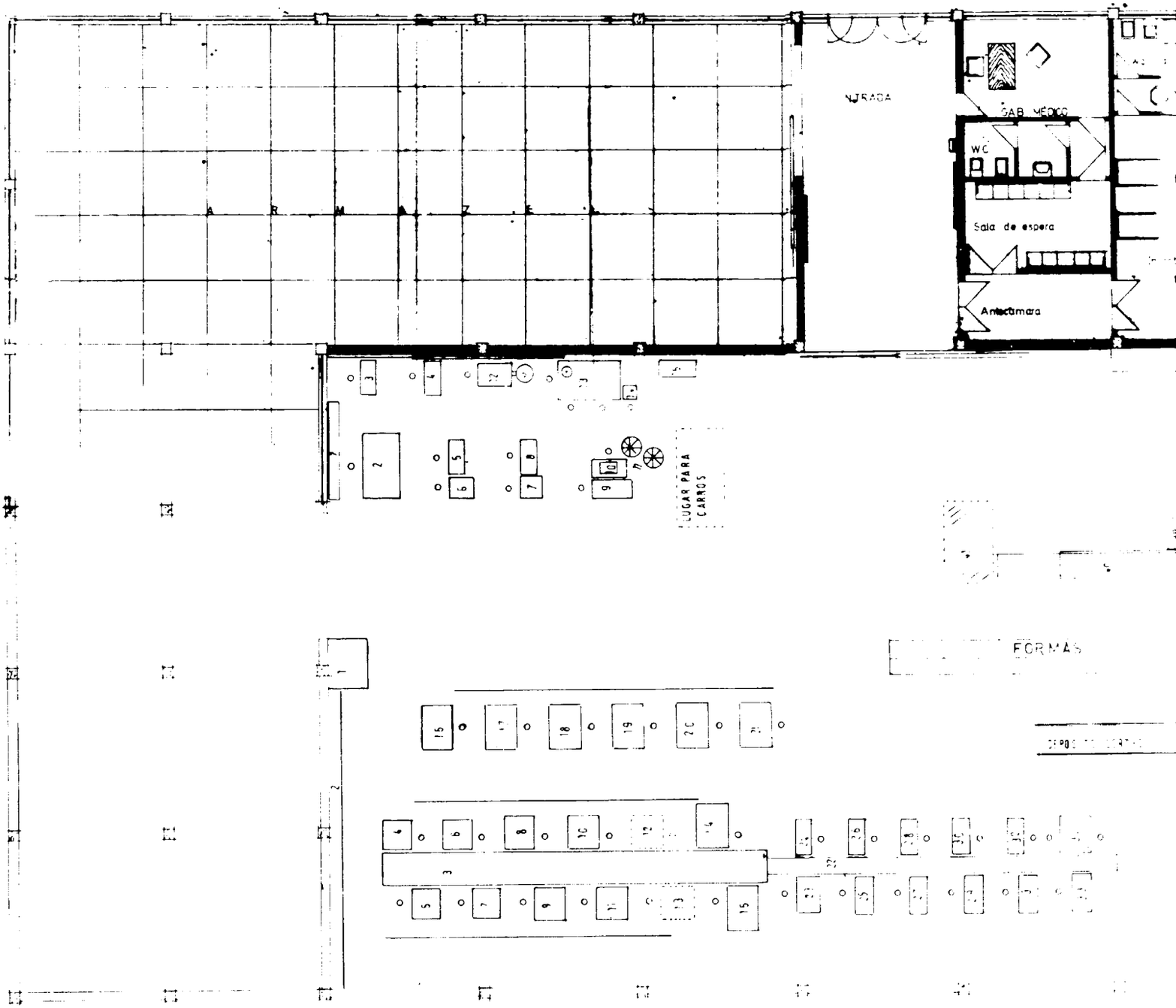
SECTION 1

FABRICA DE CALÇADO MARINA
LAY OUT : O. BIRKHAUG UNIDO
DATE : 30/10-79
1000 A 1200 PARES "LUVA"

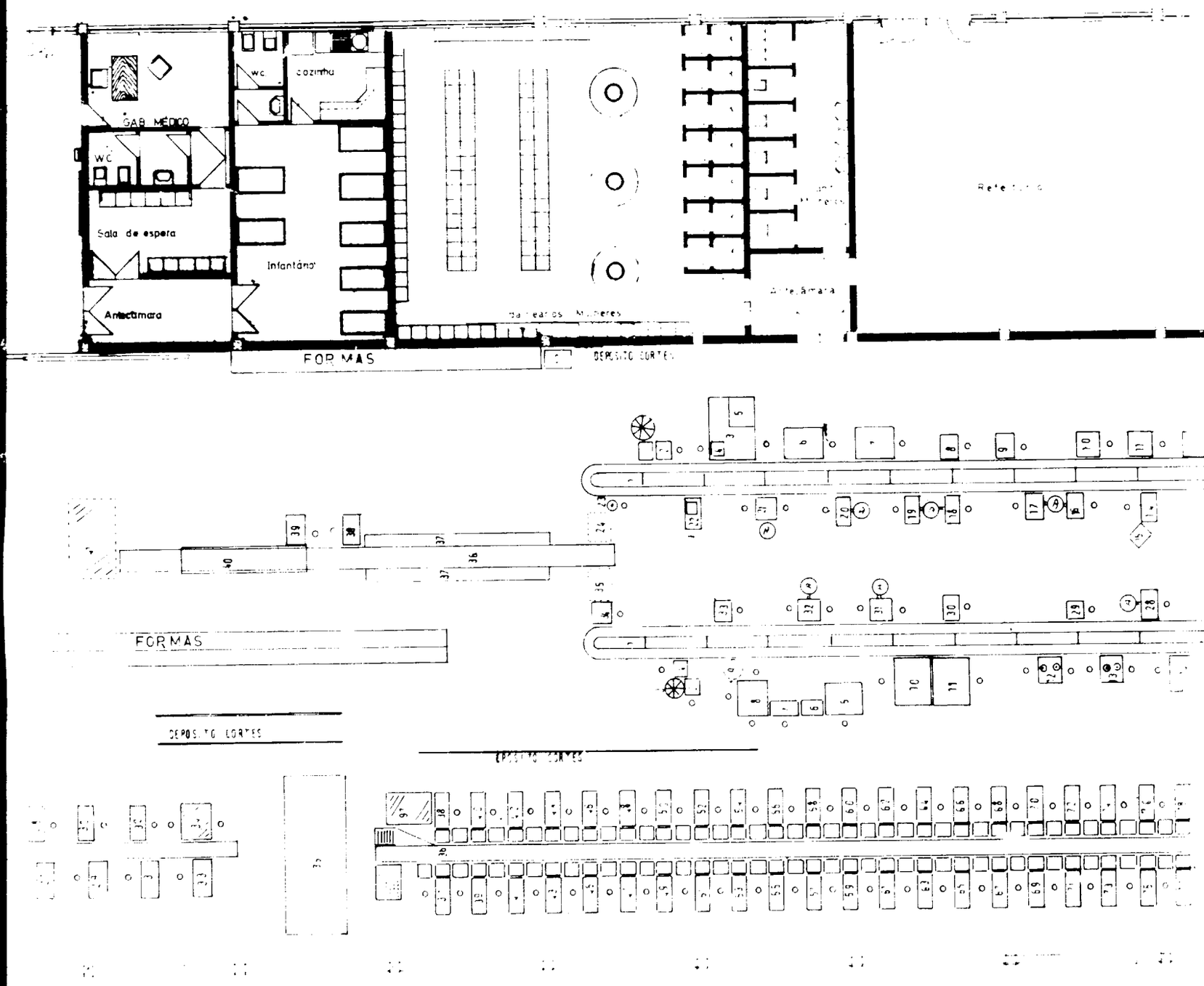
ESCALA : 1/100



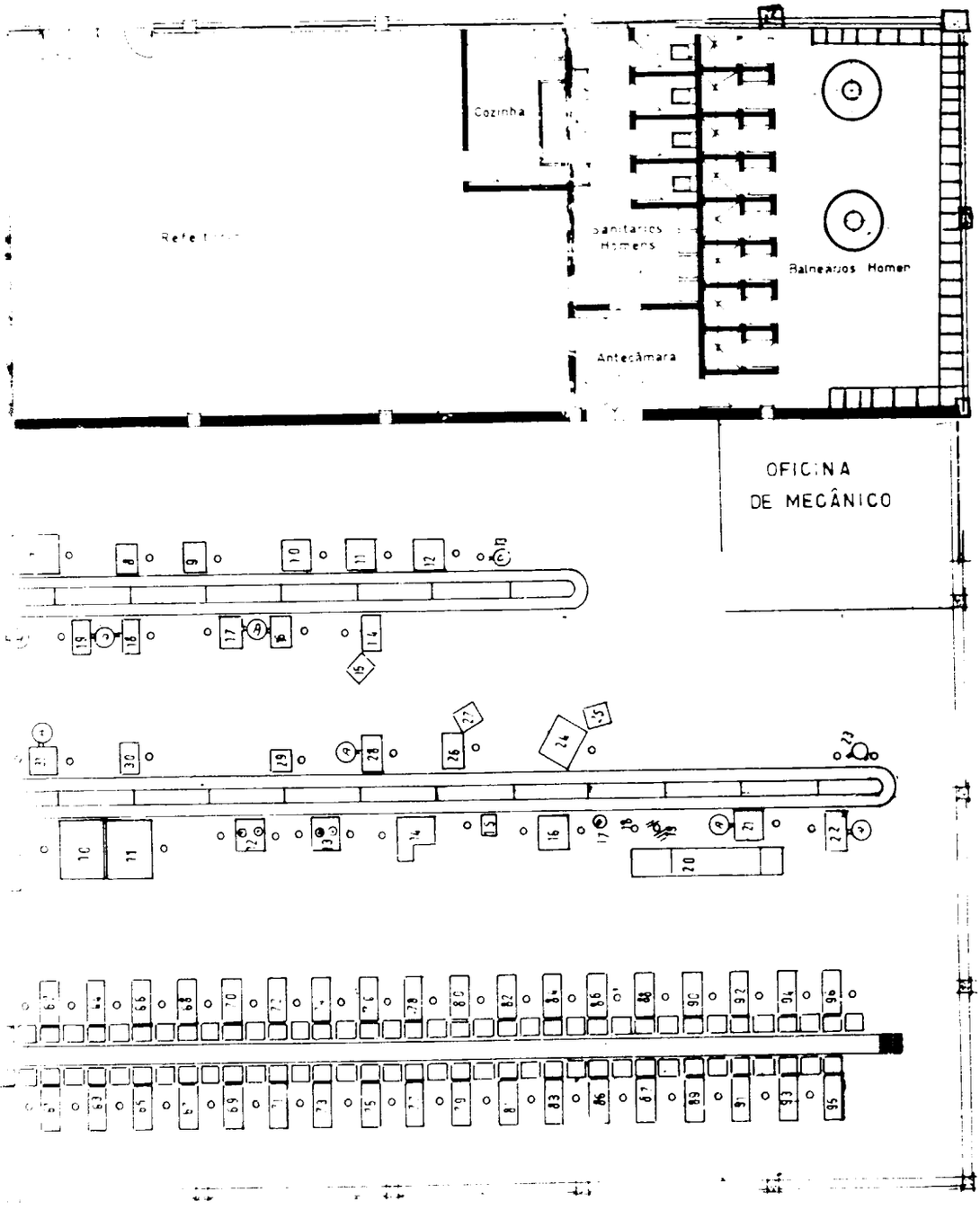
SECTION 2


ALMACEN
ENTRADA
GAB. MEDICO
W.C.
Sala de espera
Antecámara
LUGAR PARA CARROS
FORMAS

SECTION 1

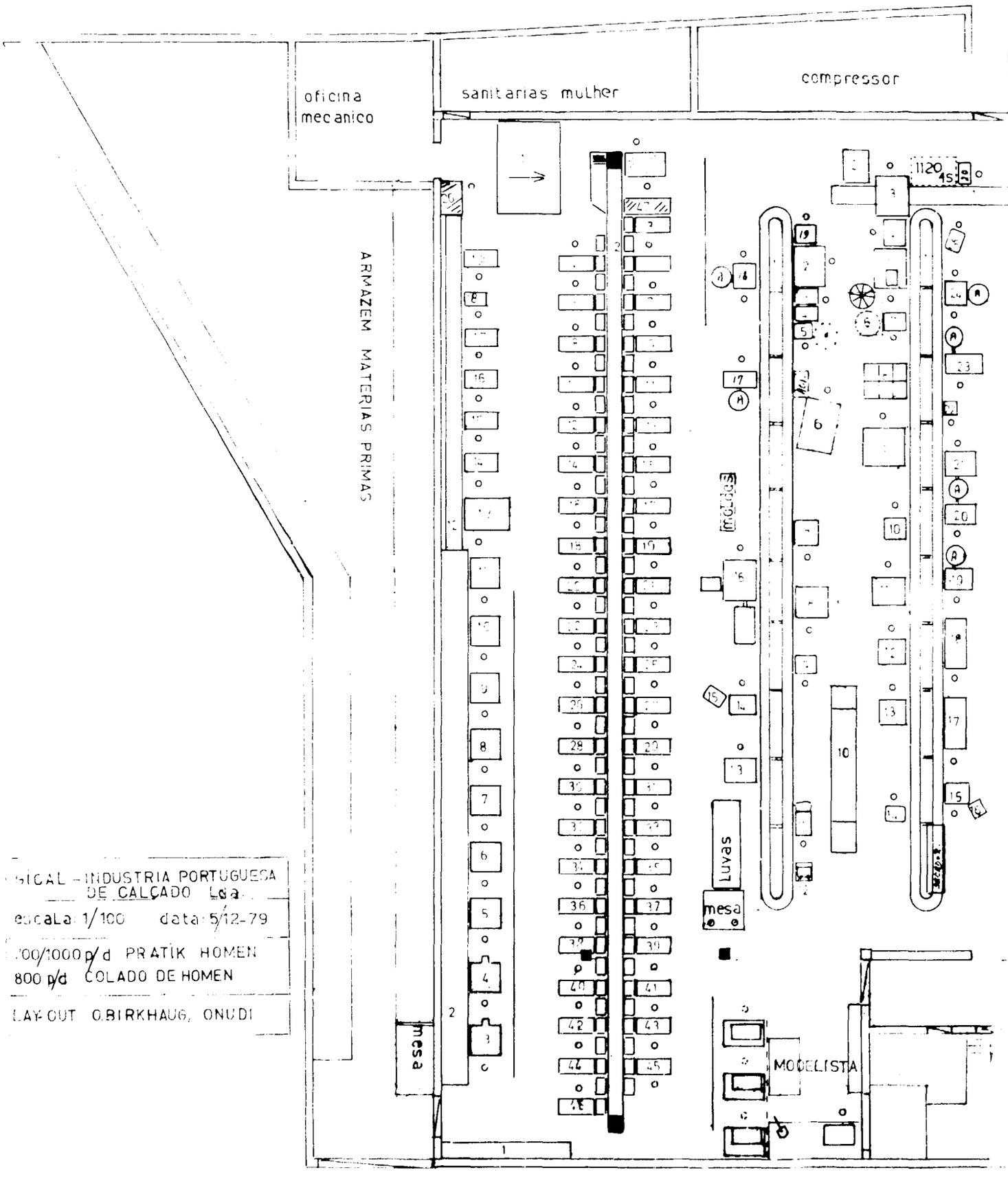

wc
cozinha
GAB. MÉDICO
wc
Sala de espera
Infantário
Antecâmara
FORMAS
DEPOSITO CORTES
Refeitório
Antecâmara
FORMAS
DEPOSITO CORTES

SECTION 2



ALMEIDA BASTOS & DIAS Lda
1500 pares/d sapatos e botas de senhora
1000 pares/d sapatos pratik
escala: 1/100 data: 14/11/79
LAY OUT: O. BIRKHAUG UNIDO

SECTION 3



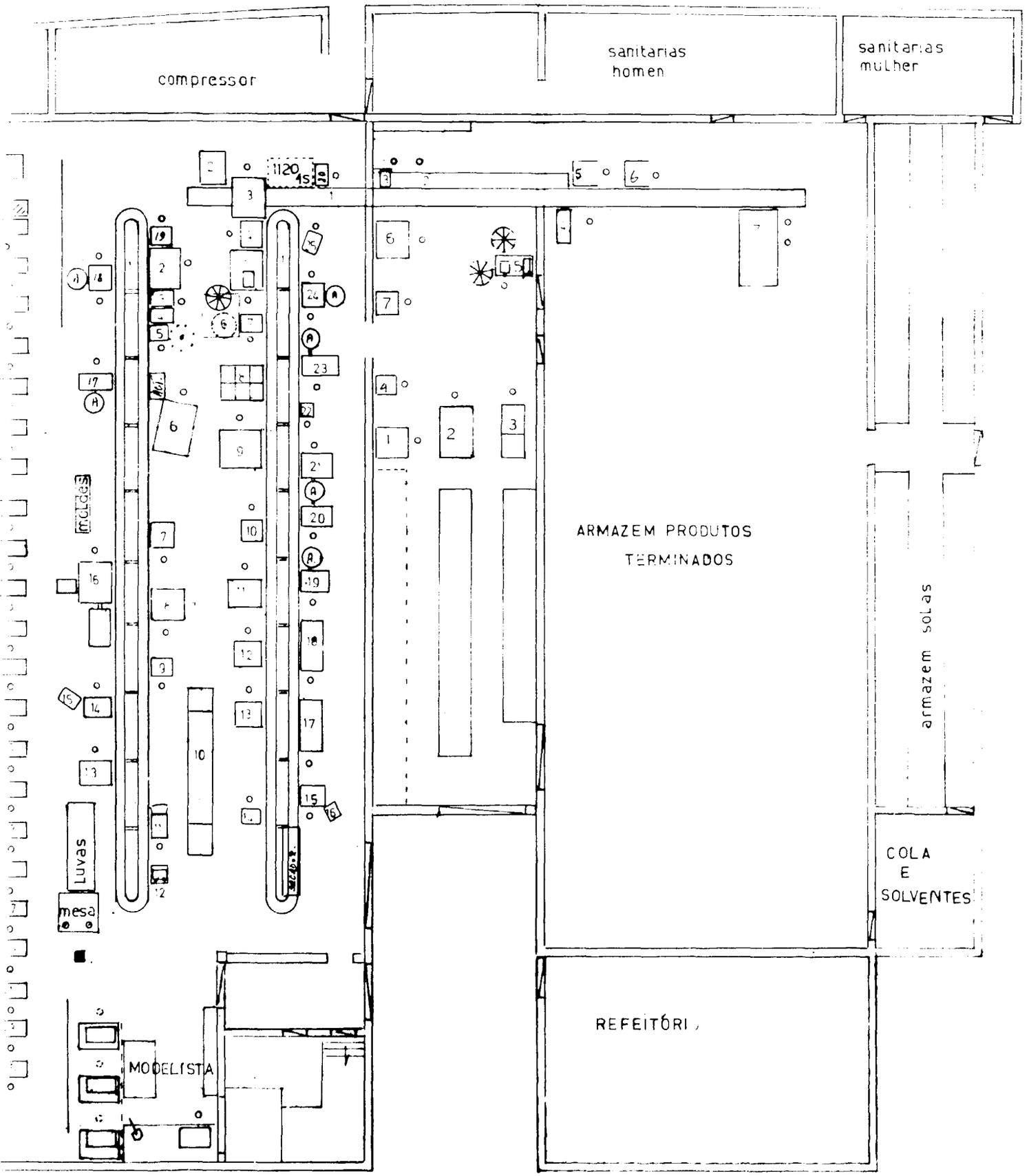
GICAL – INDUSTRIA PORTUGUESA DE CALÇADO Lda.

escala 1/100 data 5/12-79

700/1000 p/d PRATIK HOMEN
800 p/d COLADO DE HOMEN

LAY-OUT O.BIRKHAUG, ONUDI

SECTION 1


compressor
sanitarias homen
sanitarias mulher
ARMAZEM PRODUTOS TERMINADOS
armazem solas
COLA E SOLVENTES
REFEITÓRIO
MODELISTA
Luvas
mesa
moldes

SECTION 2


80.12.03