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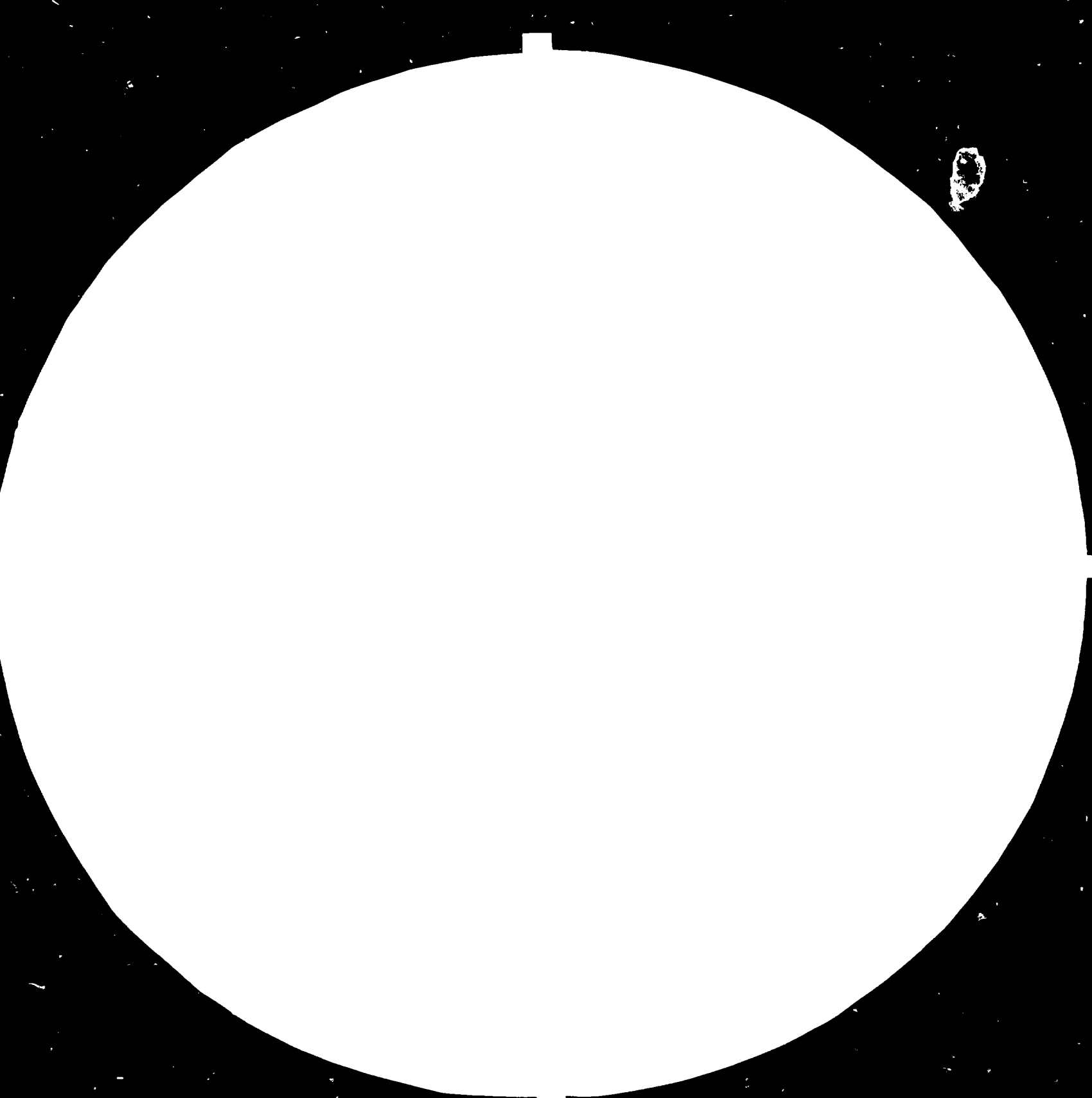
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UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

IMPROVEMENT OF GARMENT DESIGN AND MANUFACTURING TECHNOLOGY

UC/ROM/83/114

ROMANIA

Technical Report: Assist in Garment Design and Pattern Making*

Prepared for the Government of Romania by the
United Nations Industrial Development Organization

Based on the work of David Simons
Expert in Garment Technology

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TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
ACKNOWLEDGEMENT	1
II. RECOMMENDATIONS	2
III. SUMMARY OF FINDINGS:	
A. Training Courses for Industrial Designers	3
B. Factory Visits	4
C. Knitwear	5
D. Selection of Candidates for Fellowships	5
 <u>ANNEXES</u>	
I - Job Description	6
II - Summary of Lectures Only	8
III - Syllabus for Intensive Course - Fundamental Principles in Ladies' Pattern Making	9
IV - Syllabus for Intensive Course - Fundamental Principles in Men's Pattern Making	10

I. INTRODUCTION

The garment industry in Romania has 37 garment factories specialized in men's wear (suits, overcoats, coats, shirts, etc.), ladies' wear (dresses, suits, overcoats, coats, skirts, blouses, etc.) and children's wear - a complete range of garments. Each factory is specialized in a particular range of products.

These 37 factories, co-ordinated by the Garment Industry Organization, have over 100,000 workers.

In order to meet the actual demands the Government feels that more emphasis is to be put on quality rather than on quantity and it is expected that through higher quality both exportability and profitability of garment manufacturing will be increased. Therefore, production methods are to be modernized through garment engineering, the introduction of modern manufacturing technology and modern production organization. It is felt that in those fields there is a severe lack of trained personnel.

The desired technology-innovation for the garment industry will be transferred to the industry by creating a nucleus of national specialists in garment engineering, styling, manufacturing technology and production organization at the headquarters of the Garment Industry Organization. This organization, co-ordinating the entire Romanian garment industry, will act as a national consultancy bureau for the envisaged modernization activities.

External assistance is being sought to assist the Government in modernizing the Romanian garment manufacturing industry.

As an expert in design, pattern making and grading I carried out my assignment at the "Centrala Industriei Confectiilor Bucuresti" (C.I.C.B.), from 10 November 1983 to 2 February 1984, conducting courses for 50 designers from the garment industry and institutes.

Acknowledgement

I would like to express my thanks to the following people who were of great help in this project.

- To Mr. Ioan Mandeal of the Ministry of Light Industry;
- To Mrs. Burtea Verona, Director, Central Organization of Clothing Industry;
- To Mrs. Maria Dragu, Senior translator;
- To Miss Lidia Novak, Translator

for their hard work and patience in the difficult task in translating all technical terms and helping to make this three months' course a success.

- To Mr. Radu Romeo, Senior technician

and the protocol staff for taking care of me.

- To Mrs. Elena Muzescu, Deputy General Director;
- To Mr. R.F. Rabenold, Resident Representative, UNDP in Bucharest, Romania.

Also to the UNDP staff.

II. RECOMMENDATIONS

For further upgrading the capabilities of the Romanian garment industry I recommend:

- 1a) the establishment of a garment industry training centre. Such a centre should be fully equipped with the necessary tools and equipment and foreign experts should train local instructors for giving courses in:
 - design, pattern making and grading;
 - garment engineering (time and motion study), assembling economy in production, standards of quality, garment analysis and machine application.
 - b) the centre to organize short seminars and training courses for managers and supervisors. Suggested subjects and activities are:
 - information on new technological methods; equipment both in design, pattern making and grading; and in garment engineering;
 - dissemination of information collected at trade shows and from technical periodicals.
 - c) the centre should also be equipped to render technical services to the industry. For design pattern making and grading the industry should use the same tools and equipment as used in the training centre (dummies, pattern paper, push pins, rulers, etc.).
- 2) for the industry, in general, that each plant specializes in one particular type or group of garments, thereby separating ladies from men's garment dresses from outerwear, children's dresses from coats, etc. One should realize that each type of garment requires different materials and different machinery. By specialization better results can be achieved in machine utilization, efficiency and product quality.

In all factories the supply of fabric and the organization of the cutting rooms require considerable improvements.
 - 3) the implementation of the fellowships programme to be decided by the Government whether the funds on budget line 31-00 will be utilized for fellowships or for a return visit of the expert for specialized courses and seminars, in which case the unutilized funds would have to be transferred to budget line 11-01.

III. SUMMARY OF FINDINGS

A. Training Courses for Industrial Designers

On specific request of the staff of the CICB I prepared a series of full fledged courses in design, pattern making and grading. I conducted a 3-month course for two groups of 25 persons each. After approximately one month ten participants of the leather industry were added to the course.

The syllabus prepared for each of the courses were translated into Romanian and the full text with graphs and samples were handed over to the Centre for future use by their staff.

The titles of the courses were:

1. The creative aspect in designing apparel;
- 2a. Fundamental principles in ladies' pattern making;
- 2b. Fundamental principles in men's pattern making.

The titles of the Chapters are summarized in Annexes II-IV.

The courses were designed for 360 hours of lecturing. Regrettably, due to the time limitation the courses have to be condensed to 144 hours. However, the relatively high educational level of the participants and their full commitments to the subject permitted me to fully finalize the courses. The few participants without prior knowledge gained a certain amount of basic knowledge in pattern making and grading.

Those who could not attend the courses due to their duties in the factories attended as much as they could and worked hard to catch up with the group. I was impressed by their eagerness to learn and the way they compiled a portfolio during their courses.

During a fashion show at the last day of my assignment (2 February 1984) the garments made by the participants were presented based on the methods and garment construction technology received during the three month period proved the success of the courses. The following guests attended the show:

- Mr. and Mrs. R.F. Rabenold;
- Mr. I Mandeal, Ministry of Light Industry;
- Director from the Cotton Central;
- Director from Education Department of Light Industry;
- Directors from the Garment Industry in Bucharest;
- Designers, engineers and guests.

The following students were of an outstanding level:

- Mr. Miculescu Eugen;
- Mrs. Valentina Serdenciuc;
- Mrs. Doina Danescu;
- Mr. Chirica Petre;
- Mrs. Moizi Margareta;
- Mr. Ban Ion and a few others.

They could become the nucleus of further disseminating the know how to industrial garment designers in the country.

B. Factory Visits

Despite the fact that my limited time was fully absorbed by the courses I found it necessary to visit a few garment factories in order to familiarize myself with the real situation in industry. The two factories visited employed up to three thousand workers. My general impressions are as follows:

- high degree of cleanliness in the orderly shop-floors;
- low degree of specialization with too many styles in too many variations resulting in low quantities of cutting orders and ineffective - often inappropriate - use of machinery.

Some specific observations are:

1. The cutting tables and markers in the cutting room are made for the cutting of individual garments where a great amount of material was wasted. The cutting rooms in the factories need to be modernized. However, a properly organized flow of fabric is a precondition which now is lacking in Romania.

The material from the textile mill arrives folded and is spread unfolded, during which a permanent crease is formed which is hard to press out. I understand that the supply of fabric is irregular, both in quality and timing.

The result is that the garment factories had to put away the spreading machines and put more people to do the work manually.

2. The seats (chairs) on which the operators are working are too high and not adjusted to the height of the human torso. This alone can tire the operator after a few hours of work. This situation can be improved without any cost involved.

3. Human stress. The women who do the pressing are using irons of three to five kilos weight. If a woman has to lift an iron of that weight every three seconds, how many times can she lift without becoming tired? This also can be improved without great cost, just by changing up the iron on a pipe with a spring. I have explained by giving a sketch how this should be done and the management agreed and will act immediately to improve these two factors.

C. Knitwear

During a visit to the central knitting industry in Bucharest I have discussed all the aspects of the production of knitwear and the conclusion was that a great deal of training and upgrading of technology in designing, pattern making, engineering and adding new technological equipment would be required.

I was impressed with the set up of the production lines and the quality of garments produced. Again the cutting room requires modernization and new equipment.

D. Selection of Candidates for Fellowships

I have selected three students for studying abroad and supplied their names to the authorities.

I based my selection on their abilities, talent and performance at this three-month course taking into consideration the knowledge of foreign language like English and French.

I would recommend the following institutions:

- i) Bekleidungstechnisches Institute E.V.
Kaiserstrasse 133
405 Moenchengladbach
Federal Republic of Germany for engineering
- ii) Southern Tech. Institute in Atlanta
1112 Clay Street Marietta, Georgia, 30060
Tel.: (404)424-7272 for engineering
- iii) Fashion Institute of Technology
227 West 27th Street
Manhattan, N.Y., U.S.A.
Tel.: (212) 760-7855 for designing
- iv) Paris, France: Names I am not familiar. for designing

For buying dummies (forms)

Superior Model Form Corporation
34 West 17th Street
New York, N.Y. 10011, U.S.A.
Tel.: (212) 929-6313



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO

29 July 1983

Request from the Government of the Socialist Republic of Romania

INTERNAL

JOB DESCRIPTION

UC/ROM/83/114/11-01/31.7.B

Post title Garment Technologist (with extensive experience in garment construction, production engineering and production management)

Duration Three months

Date required As soon as possible

Duty station Bucharest, with some travel within the country

Purpose of project Technical assistance to the Romanian garment industry in the field of constructive and technological engineering of garments through the Garment Industry Organization, the co-ordination body for the national garment industry

Duties At the Garment Industry Organization's headquarters a garment expert will be expected to :

1. Introduce and demonstrate modern methods of constructive and technological engineering to the advisory staff of the Garment Industry Organization;
2. Assist in the selection of three Romanian garment technologists for training abroad in efficient styling and construction of garments;
3. Conduct training courses in modern production technology and labour organization for the national staff of garment technologists at the Garment Industry Organization;
4. Recommend the necessary equipment to be provided by UNIDO for measurement and control of pattern efficiency;
5. Advise the Garment Industry Organization on equipment required to modernize the garment-making factories;

..../...

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

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

6. Render technical assistance to some selected sample factories.

The expert will also be expected to prepare a final report, setting out the findings of the mission and recommendations to the Government on further action which might be taken.

Qualifications

Garment technologist with specific experience in patterning, styling and modern constructive and technological engineering of garments.

Language

English

Background Information

The garment industry in Romania has 37 garment factories specialized in men's wear (suits, overcoats, coats, shirts, etc), ladies' wear (dresses, suits, overcoats, coats, skirts, blouses, etc) and children's wear - a complete range of garments. Each factory is specialized in a particular range of products.

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ANNEX II

SUMMARY OF LECTURES ONLY

For the Creative and Styling Aspect in Fashion Designing

1. Introduction - What a designer has to know, and what qualities should a designer possess.
2. Why people wear clothes? and assumptions.
3. What influences fashion, and what is fashion.
4. Good styles and bad styles (fads and fancies).
5. The anatomy of the human body.
6. The figure silhouette.
7. The silhouette of the garment.
8. Different personality types.
9. Elements of creative design.
10. Line design and line illusions.
11. How lines in garments effect each type of figure.
12. Textiles - Natural fibres, synthetic and mixed fibres.
13. Fabrics - a source of design.
14. Combination of fabrics a source of design.
15. Details of trimmings a source of design.
16. The fundamentals in colour.
17. Advance study of colour.
 - a. The psychology of colour;
 - b. The use of colour in design;
 - c. Effects of colour on figure and size.
18. History of fashion from early Egyptian to present.
19. Adopting designs from costumes or objects.
20. Short biografics of famous designers.
21. Characteristics of style.
22. Basic rules of fashion today.
 - 2 hours a day;
 - 4 hours a week;
 - 16 hours a month;
 - Three months = 48 hours.

ANNEX III

SYLLABUS FOR INTENSIVE COURSE

Fundamental Principles in Ladies' Pattern Making

1. The anatomy of the human figure.
2. How to take measurements.
3. How to draft slopers.
4. How to drape slopers.
5. Introduction to draft manipulation.
6. Dart manipulation.
7. Stylish waist.
8. Princess line - waist front.
9. The drafting of flanges (pleats).
10. Tuck in blouses (gathered necklines).
11. The drafting of different types of skirts.
12. Princess line dress (fitted).
13. Slacks, pants, different styles.
14. The construction of collars, different styles.
15. The construction of sleeves, different styles.
16. The principles of grading of sizing, if having enough time.

Based on 6 hours a day;
12 hours a week;
48 hours a month;
Three months = 144 hours.

This course is usually based on 360 hours.

ANNEX IV

SYLLABUS FOR INTENSIVE COURSE

Fundamental Principles in Men's Pattern Making

1. The drafting of a men's sloper.
2. How to take measurements.
3. Jacket sloper.
4. Cardigan jacket.
5. Workman's jacket.
6. Buttoned cardigan jacket with patch pockets.
7. Collared cardigan jacket with patch pockets.
8. Three variations of sport jackets.
9. Single breasted blazer - 3 buttons patch pockets.
10. Single breasted Italian cut jacket.
11. Two button continental jacket.
12. Three button single breasted Italian cut jacket.
13. Two button double breasted continental jacket.
14. Double breasted continental jacket.
15. Draped double breasted jacket.
16. Dinner jacket.
17. a. Long flared cape;
b. Tailored cape.
18. Basic raglan jacket.
19. Half raglan sleeve.
20. Full raglan sleeve.
21. Variation of collars.
22. Regular pant sloper.
23. Variations of pants.
24. Single breasted and double breasted vests.
25. Basic shirt.

6 hours a day;
12 hours a week,
48 hours a month;
Three months = 144 hours.

This course is usually based on 360 hours.

