LIGHTING THE GLOBAL WORKSPACE

Berlin

Project: Strings of Light

Médellin

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NATURAL DAYLIGHT ARTIFICIAL LIGHTING DYNAMISM, **ENERGY SAVINGS** AND



INTRODUCTION

LIGHT MEANS DIFFERENT THINGS TO DIFFERENT CATEGORIES OF PEOPLE DEPENDING ON THEIR PERSPECTIVE, HOW THEY RELATE TO IT AND HOW THEY INTEND TO USE IT. RESEARCH HAS IDENTIFIED LIGHT AS ONE OF THE ESSENTIAL PARAMETERS OF INDOOR ENVIRONMENTAL QUALITY THAT AFFECTS THE WELLBEING AND PRODUCTIVITY OF THE OFFICE WORKER. THE EFFECTIVENESS OF A LIGHT SYSTEM WILL AFFECT THE PERFORMANCE OF THE WORKERS.

A STUDY OF AN ENGINEERING FIRM IN THE CITY OF LAGOS WAS DONE IN THE PREVIOUS STAGES.





CHALLENGES

SUSTAINABILITY



1. HIGH DENSITY OF WORK PLACE



2.EXCESSIVE SOLAR IMPACT



Manila

3.NON SUSTAINABLE LIGHTING SYSTEMS

- CONVERSION OF RESIDENTIAL BUILDINGS TO OFFICES IS ON THE RISE AND THE ADAPTATION OF RESIDENCES TO THE IMPENDING WORK **ENVIRONMENT IS A MAJOR ISSUE IN LAGOS.**
- HIGH DENSITY AS A RESULT OF LARGE LABOUR POPULATION
- GLARE AND HEAT AS A RESULT OF INTENSE SUNSHINE
- UNSUSTAINABLE LIGHTING SYSTEM WHICH IS QUITE COMMON IN LAGOS

NEW HYPOTHESIS

DAYLIGHTING BRINGS DYNAMISM TO OFFICE LIGHTING THEREBY **CONTRIBUTING TO QUALITY OF LIGHT AND OFFICE WORKER'S PRODUCTITY THROUGH THE USE OF OPTIC FIBRES THERBY** ELIMINATING GLARE AND HEAT





PREVIOUS SOLUTION

- THE PROPOSED NEW OFFICE LAYOUT HAS A MORE EFFICIENT LAYOUT AND ZONING
- DEFINED WORKED AREAS AND AUXILIARY SPACES
- USE OF COMPACT FURNITURES TO GIVE A SPACIOUS FEEL TO THE WORKSPACE.
- **USE OF LED FOR SUSTAINABLE LIGHT SYSTEM**
- USE OF DOWNLIGHTS TO WASH THE WALLS GIVING AN ILLUSION OF A BIGGER SPACE





NOON;

THE LUMINOUS OPTIC

CHANNEL THE LIGHT

RESULTS

FIBRES CHANNELS

INTO THE SPACE

OF THE SUN TO

INDICATE NOON.

EASY TO INTEGRATE INTO THE FAÇADE; LOOKS LIKE A NORMAL CABLE DISH

ABOUT THE HYBRID LIGHT SYSTEM

- LIGHT HARNESSED BY THE RECEPTOR ON THE **ROOF WHICH APPEARS AS A DISH**
- CHANNEL DIRECTLY THROUGH THE LUMINOUS RECEPTOR **OPTIC FIBRES** WHICH IN TURN LUMINATES THE **ROOM IT IS CHANNELED TO**
- A SENSOR ENSURES THAT THE LIGHT COLOUR MATCHES THAT OF THE NATURAL LIGHT
- THE HYBRID SYSTEM ACTIVATES THE ARTIFICIAL LIGHT TO ACHIEVE THE REQUIRED AMBIENCE AS NEEDED BY THE WORKER.
- CONTROL OF TASKLIGHT ACCESIBLE TO EVERY **INDIVIUAL WITHIN THE WORK AREA**
- IT IS VERY SUSTAINABLE AS INTENSE DAYLIGHT IS EXPECTED ALL YEAR LONG IN THE TROPICS

FIBRE

SUNSET/SUNRISE LUMINOUS OPTIC THE FIBRES CHANNELS INTC SPACE CHANNEL THE. THE LIGHT OF THE SUN TO INDICATE THE RISE OR SET OF THE SUN

HARNESSING DAYLIGHT INTO THE OFFICE SPACE BY MEANS OF FIBER-OPTIC SOLAR LIGHTING SYSTEMS (HYBRID SOLAR SYSTEMS) WILL BRING DYNAMISM OF LIGHT HEREBY INCREASING THE PRODUCTIVITY, COMFORT AND SATISFACTION OF THE OFFICE WORKER.

- LITTLE STRUCTURAL CHANGES WERE MADE SO HAS NOT TO INTERFER WITH THE STRUCTURAL INTEGRITY OF THE BUILDING AND ALSO TO SAVE COST
- THE PLASTIC FIBRE OPTICS BY MEANS OF HYBRID SOLAR LIGHTING SYSTEM ARE DESIGNED TO FORM, FIT AND FUNCTION IN ONE FLEXIBLE, ENERGY-SAVING, ENVIRONMENTALLY **CONSCIOUS SYSTEM**

A Research Project by:

