

## 住宅産業システム

### "SYSTEMATIZATION" IN THE HOUSING INDUSTRY

#### 住宅産業とは何か

住宅業界には金融、建材、土地、建物の四分野がありますが、これらのうち産業と呼べるものは建物の分野だけではないかと思っています。交通業界にあって、自動車産業というのはあっても交通産業というのがないのと同じです。住宅に限って言えばプレハブ住宅業界だけが産業と呼べると思います。

#### プレハブ住宅とは

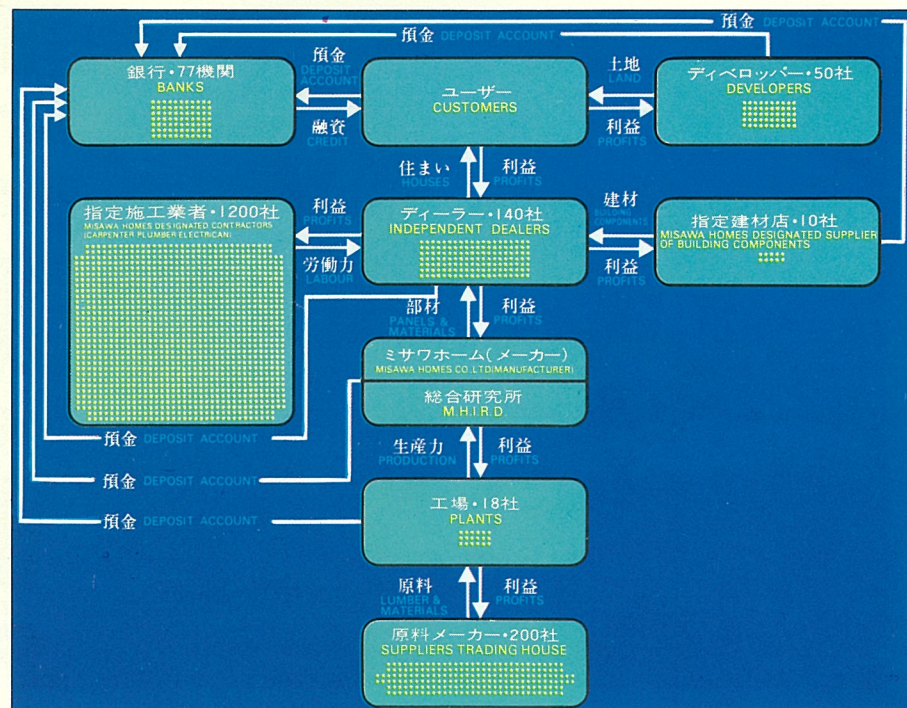
プレハブ住宅とは何かというと、現場工法

### WHAT IS THE HOUSING INDUSTRY?

There are four major fields of activity in the housing industry: finance, production of construction materials, procurement of land, and construction of buildings. The most significant of these four fields which can actually be called industrial is the "construction of buildings" phase. A similar situation exists in the area of transportation, where we have the "automobile industry". Thus we believe that prefabricated housing is the field which has the most potential for industrial growth of any of the ventures relating to the housing industry.

### WHAT IS "PREFABRICATED HOUSING?"

"Prefabricated housing" is an effort to industrialize the production of houses by bringing the diversified on-site construction



ミサワホーム住宅産業システム図 (昭和46年3月現在)  
total system of Misawa Homes Housing Industry (march, 1971)

を工場での大量生産方式にきりかえ、資材と手間を合理化します。その効果は

- ①価格が安く供給できる、
- ②均一な品質が確保できる、
- ③高品質なものができる、ことです。

従来、住宅の主流を占めてきた在来工法による一般木造が、主として施工能力の問題で行きづまりつつあり、今後の膨大な住宅需要を賄い、一般大衆にローコストの住宅を供給するためにはプレハブ住宅以外にないということです。

政府の住宅建設第2次5ヵ年計画によると最終年度では25〜30%の建設をプレハブ住宅で供給するとされています。

techniques to the level of factory production. This is basically a process of standardization.

What we hope to derive from such efforts, besides mass production and savings in materials and labor, are the following:

- (1) A supply of low-cost housing
- (2) Consistent quality in the product
- (3) An increasingly high level of quality

It is quite apparent that the conventional methods for constructing private homes have reached a limit in the sense that there is no longer sufficient labor to fulfill the housing demand. Thus prefabricated housing emerges, in light of the fact that it provides the general consumer with a quality house at low cost, while solving many of the problems facing the housing industry today.

The Japanese Government plans to build 9,500,000 houses in its second five-year plan for house construction, covering the period from 1971 to 1975, and calls for 25 — 30% of this target to be fulfilled in the last year of the program. This will only be possible if the prefabricated housing industry participates in the project to its fullest extent.

#### プレハブ産業の要素

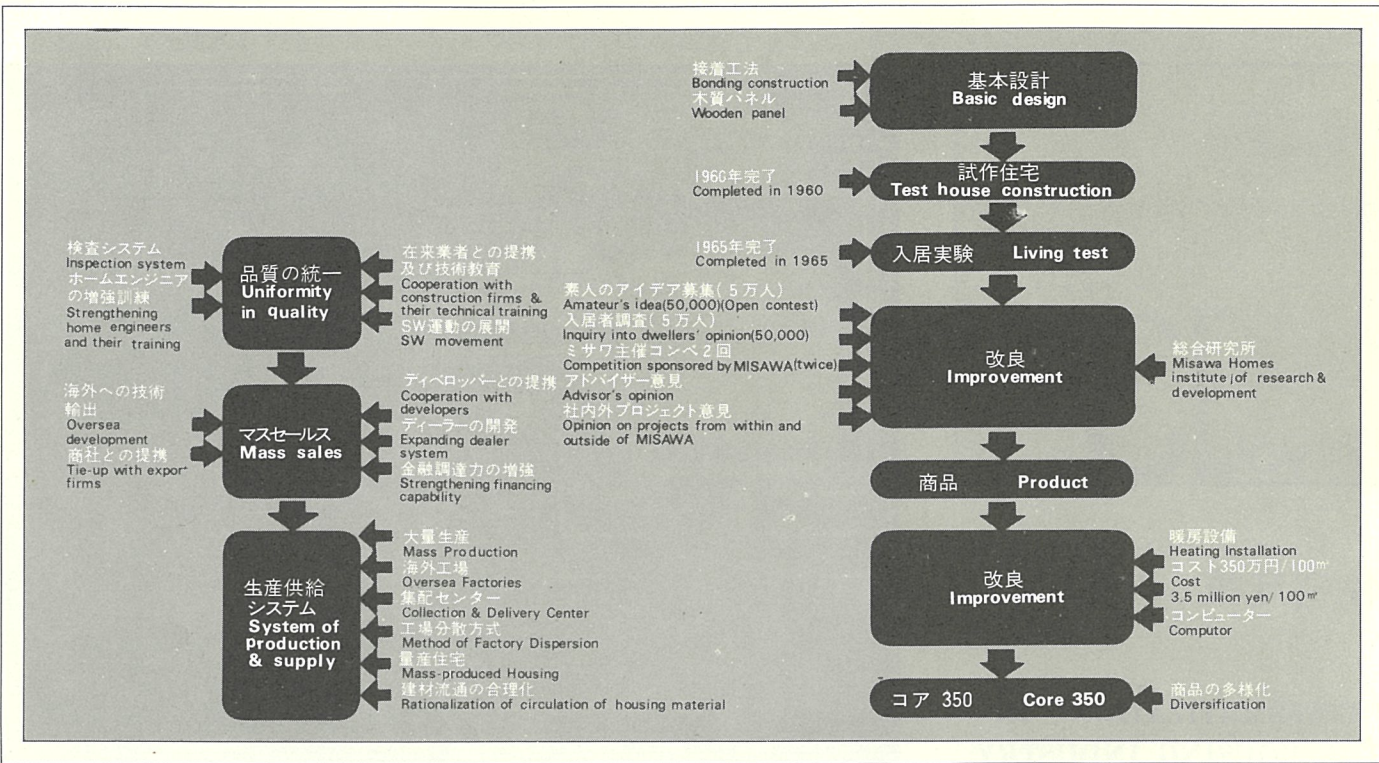
製作、販売、施工の三要素からプレハブ産業は成立っています。第一には、技術革新により開発したものを最低5年以上の実験を経て商品化する。第二には、素人のお客様の相談相手になって設計から資金準備までお世話するセールスエンジニアの配置、第三には、現場での施工を担当する工務店の確保と教育が必要です。これらが全部揃って完全な供給体制といえますが、その仕組みは、日本という国土を考えて、一番これに適合したものでなければなりません。

### THE PHASES OF THE PREFABRICATED HOUSING INDUSTRY

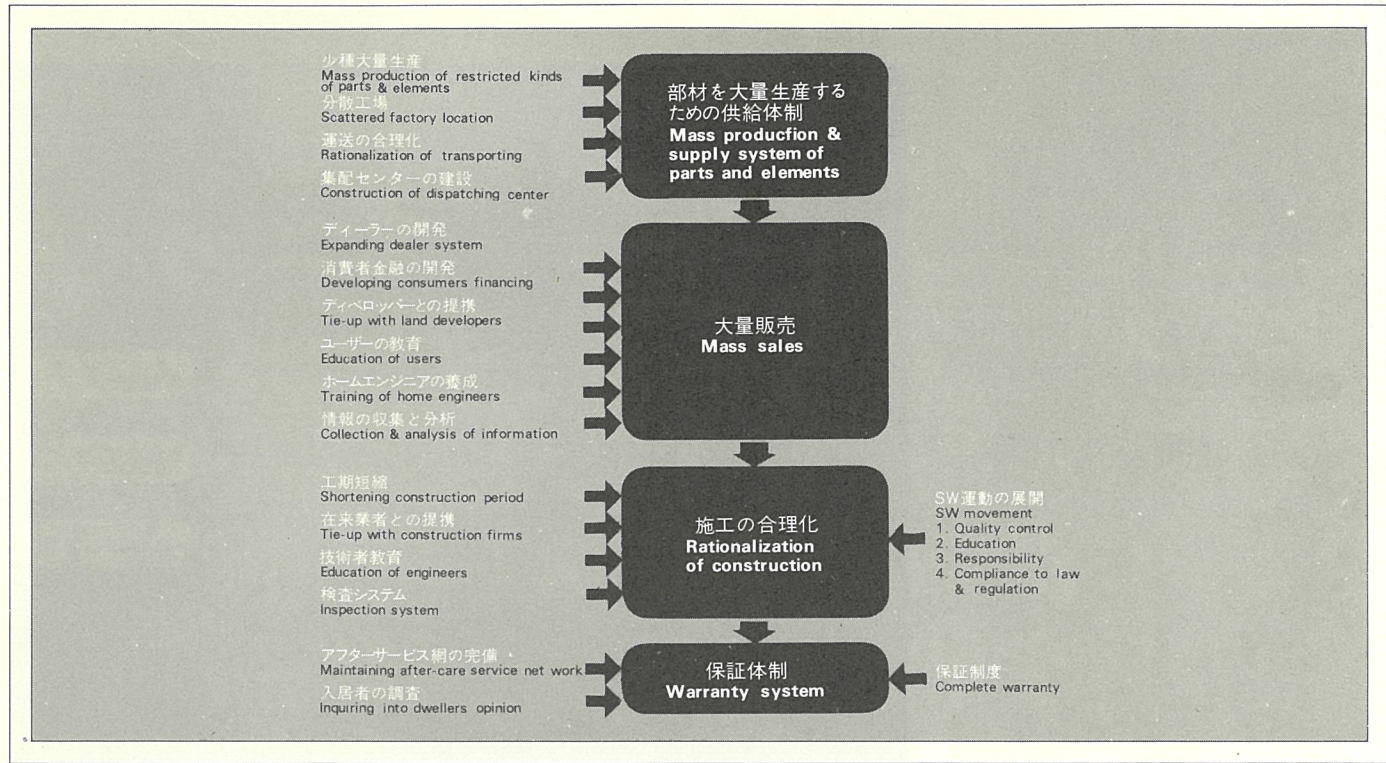
The prefabricated housing industry consists of three basic phases: production, sales and construction. "Production" is the process involving the research, development, and manufacture of products. This process, from the conception of a product idea to its production, usually involves about five years of research, development and testing before the product is finally released on the market. "Sales" is the part of the process which is carried out by sales engineers in designing, financing, and consulting with individual clients. And finally, "construction" is the phase which must actually be carried out by contractors.

Each of these three phases constitutes a necessary and integral part of the supply system of the prefabricated housing industry, and the thing which is most important for achieving the best results is well-balanced coordination between these three phases.





商品開発プロセスのシステム図(コア350の場合) systematic approach to merchandizing(Core 350)



経営戦略のシステム図 systematization of Management strategy

## ミサワホーム住宅産業システム

ミサワホームは工場生産を前提に開発された本格的プレハブ住宅です。それを流通段階にのせるについては、予想される量を完全にこなし、かつ、日本の国土に最も理想的という方法をとっています。メーカーは技術開発と部材の供給に当り、販売と施工・監理は地元で地盤と信用のある企業と提携して分担してもらい、現場での施工は、これも地元の工務店を教育して担当してもらっています。これがミサワホームグループと呼ばれるもので、更に関連する土地関係のディベロッパー、金融面の銀行などと手を結んでミサワホーム住宅産業システムができています。主な意図は、各企業がその最も得意とする分野で充分に腕を振り、かつ単独の企業ではいつか量産限界に突当ることを、システム化によって無限の可能性につないでいくことです。そして地元に着目した販売・施工体制によって、地元をうるおし、お客様の期待にこたえていこうということです。次にこのシステムの最も重要なポイントになるディーラーシステム、施工業者の教育システム、生産システムについて解説してみます。

### 1)ディーラーシステム

ミサワホームは、販売方式の一貫として、当初から業界に先がけディーラー・システムをとっており、これは、各地方の名門会

社が専業の別会社をつくり、地元の金融機関との強力なタイアップのもとに活動する地域産業です。販売を主体に、その傘下にミサワホーム専業の施工業者をもち、設計から施工、監理まで一貫しておこないます。ミサワホームは、統一仕様、統一販売価格の方式をとっていますので、全国どこでもディーラーでも製品の均一性が保たれています。ディーラーによる製品のバラツキなどの心配はありません。

### 2)施工業者の教育システム

プレハブ業界の大きな課題は、いかに質の高い建設業者を多く確保するかということです。ミサワホームは、この点に関して、当初から長期的展望のもとに大きな努力をつづけてまいりました。現在、施工業者は全国に多数ありますが、ミサワホーム専業の業者だけでも約1,200社にのぼります。これらは、いずれも経験の豊富な実力ある業者ばかりです。もっとも古い業者は、専業で10年の経験をもっています。工事経験の比較的浅い業者も、最近はプレハブ住宅への認識が深まっていることもあり、以前に比較して、短時日で実力をつけております。ミサワホームでは、長期計画にもとづき、ディーラーを140店にするために、いま着々と準備をすすめております。それにとともに、施工業者も、2,000社確保をめざしております。ミサワホームの場合、施工業者の確保は、ディーラーの経営者がやるのではなく、現場を担当している検査

員、現場管理者が、つねに優秀な業者確保を心がけ、動いています。これが、ミサワホームと他者との差になってあらわれています。また、現在の教育管理システムを、さらに完全なものにするための作業もすすめられております。

### 3)生産体制

ミサワホーム住宅産業システムにもとづく生産体制は、現在、業界でも定評のある松本工場を含めて19あります。松本工場は、ミサワホーム総合研究所の指導により、独自の計画によるプラント設計をおこなったパイロット工場（モデル工場）です。ここでは、昭和44年より一連の生産テストをおこなっていますが、この結果により全国に設置する協力工場のプラントを決定し、製品の均一化をはかります。また、このパイロット工場では、設備、コストの合理化を追求するとともに、新製品の試作、実験と全国の工場作業員技術者の教育、実習もおこなっています。現在使われているプレハブ資材は、ほとんどが一般建築資材として、市場に出まわっているものです。現在のプレハブ住宅は、それを単に工場で組み立てたものにすぎません。ミサワホームの場合はちがいます。昭和44年に、プレハブ用合板の開発に成功し、翌年からこのプレハブ用合板に全面的に切りかえています。また、原料資材はすべて世界各国から最適なものを調達しています。

## THE INDUSTRIAL SYSTEM AS IT IS BEING REALIZED BY MISAWA HOMES

Misawa Homes produces a variety of pre-fabricated houses which have been developed on the precept that most of their parts can be manufactured in a plant at a mass production level. Their production volumes are based on the computerized calculation of the anticipated demand at a maximum level which will render the highest level of efficiency and lowest costs under the unique circumstances of the Japanese economy and living standards. Misawa Homes, as a manufacturer, is responsible for technical developments and the supply of materials, while the sales and construction are the responsibility of contractors who are highly acclaimed for their reliability and financial standing in local districts. The relationship between Misawa Homes and these local contractors is very close, but the scope of their responsibilities are clearly delineated. Each local contractor has established a solid relationship with workmen within his franchise area, and Misawa provides these workmen with opportunities to learn newly developed construction techniques through our in-house study programs. This is the vertical line of the Misawa Homes Group's system. This Total System also covers the areas of land procurement and financing by means of tie-ups with financial institutions and land developers. In the Misawa Homes Group system, individual enterprises are given full play in their fields of capability under an ideally organized system. Under any other circumstances, there are so many factors that work against the survival of such an enterprise, which is generally classified as a midget or medium-sized business in the present economic world, that failure would not only be possible, but also might be probable. These enterprises, functioning as part of the Misawa Homes Group system are solidifying their footholds in their respective communities by responding to individual clients' needs

and also contributing to the development of the local economy. The Total System as outlined above incorporates three sub-systems in its practical application in field activities: They are - (1) Dealer System, (2) Construction System and, (3) Production System, each of which will be explained below.

### (1) Dealer System

Misawa was the first company in the industry to adopt this system, wherein Misawa's dealers in rural areas are subsidiaries of leading companies in other industries in respective areas in strong tie-ups with financial institutions in the community. Misawa's dealer in each franchise area is therefore a well founded enterprise serving the particular community. Such a dealer has under its umbrella contractors specializing in the construction of Misawa Homes from design to actual construction and supervision of the work. All Misawa Homes have uniform specifications and prices are the same at every Misawa dealer in Japan. Misawa's products are standardized all over Japan and do not differ even when supplied by different Misawa dealers.

### (2) Construction System

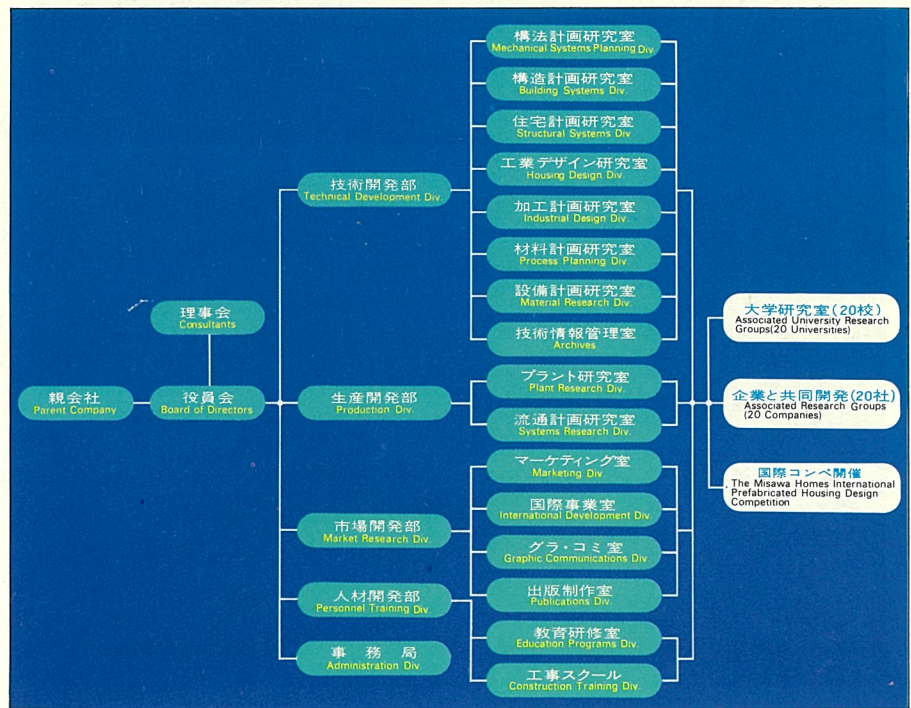
This system relates more to the education of contractors. The biggest issue of the pre-fabricated housing industry is how to secure as many skilled contractors as possible. Misawa, in the early stage of organization, realized this would constitute a decisive factor for the company's development and had taken necessary measures in a long-range perspective. At present, Misawa has contracted with a great number of contractors all over Japan, 1,200 of which have been contracted on a franchise basis. All of these contractors have long experience and are incomparably capable. Some of them have been exclusive contractors for Misawa for 10 years. Some others who are less experienced are quickly gaining knowledge of prefabricated housing in view of increasing popularity in recent years. Misawa, based on a long term program, is now trying to increase the number of franchise contractors to 140 with an eventual increase of their sub-contractors to 2,000,

and the plan is steadily progressing. In the case of Misawa, the discovery of competent sub-contractors is the job of workmen, inspectors, and supervisors in charge of on-site construction, not of the management of franchise dealers. These people are always on the lookout for competent sub-contractors to construct Misawa Homes. This is one thing that makes Misawa Homes very different from other makes of pre-fabricated housing. Another unique aspect of Misawa's Construction System is the training and management of the skilled labourers who have thus joined Misawa. Misawa continues to improve the training of these people and it applies the most up-to-date management for controlling them.

### (3) Production System

Misawa now has 18 plants including its highly acclaimed Matsumoto Plant, which was designed under the guidances of Misawa Homes Institute of Research & Development. In this respect, it can be called a model plant in the sense that it adopts a wide range of test equipment and provisional production methods to verify their usefulness. Since 1959, Matsumoto Plant has carried on a series of production tests in order to decide the pattern of plants that will constitute part of Misawa's entire production facilities so that all Misawa products produced in different plants can meet the original specifications. Another function of Matsumoto Plant is to pursue means for cost reduction by improving the equipment and inventing better and more economical production systems. Tests and experiments of new products as well as the training of engineers are also done in this plant. Most of the materials now used for pre-fabricated housing available on the market are those made for general and conventional construction purposes. Most prefabricated housing is made of these readily available materials, with the exception of Misawa Homes. The materials used in Misawa Homes are based on invention of plywood best fit for prefabricated housing in 1959 and all Misawa products after 1960 are basically made of this special plywood.





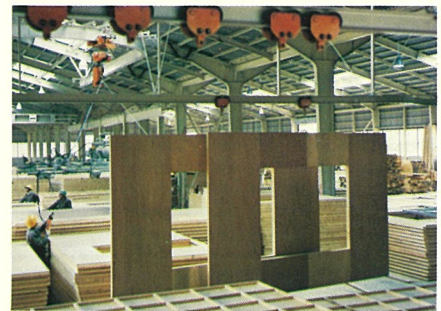
ミサワホーム総合研究所の組織図  
organization of Misawa Homes Institute of Research & Development



ディベロッパーによる分譲住宅  
land development by associate developers



ディーラーによる店頭販売  
counter-sales at the Misawa Homes dealer



工場におけるパネルの製造  
automated plant panel manufacturing

## 今後の展望

ミサワホームの住宅産業システムは、情報と資本によってお互にむすびついているため莫大な資金調達力、人材組織力をもつことになり、マスセールを進める基礎になるわけです。住宅産業が一企業によって開発できるものであれば自由経済の中です

に解決されているはずですが。今日まで解決を見なかったことを考えると今までの概念とは違った力を作り、事に当たらねばならないと思っています。ちょうどアポロ計画が一企業によって達成したのではなく、多くの企業の専門分野からの技術を結集して目標を達成したように、未来産業といわれる仕事、宇宙開発、海洋開発、住宅産業は同じようなことがいえます。そこでこの開

発プロジェクトを進めるための中核としては、研究所が当たるのが望ましく、研究所は多くの専門的分野と提携して強力にプロジェクトを進めることになります。そこで私共の総合研究所を参考までにご紹介しておきます（上図参照）。総合研究所は情報の収集機関であり、ここで出された結論を最大に拡大するため前記の住宅システムにのせられることになるわけです。

## FUTURE DEVELOPMENT

We envision a group having a vast source of information, a well established financial background and talented, capable personnel. We put faith in such a group of truly industrially-minded people for the promotion of mass sales of prefabricated housing. Organizing such a group has so far been considered impossible by a single enterprise in free enterprise economy. Actually, we have no knowledge of the existence of a group such as we have in mind in our

industrial society. The formation of such a group requires an entirely different approach from the usual concepts of conventional economic or industrial setups. It requires a similar approach as was employed for the Nasa Apollo Project, which was only possible by making use of the various technologies developed in different industrial fields. In this respect, the Apollo Project is said to represent a pattern of "future industry", the word often used nowadays to refer to space and marine developments. In the same way, we believe that the housing industry also belongs in the category of "future industry".

The Institute has similar potential with the group of people outlined above, provided that the Institute becomes the core of the project, in cooperation with professional experts from other industries. The purpose of Misawa Homes Institute of Research & Development lies in its similar functions to the group outlined above. For your information, we show below the organizational chart of Misawa Homes Institute of Research & Development. The Institute gathers all kinds of information, which is carefully analyzed and reorganized to give maximum contribution to the sales efforts of the company.