

MODULAR HOUSES MANUFACTURING PLANT

Business Development International, Inc. can assist you in setting up a **Modular Home Production Plant**, to help build quality residential and commercial housing in all styles and sizes.

MODULAR CONSTRUCTION now accounts for over 45,000 homes being built each year in the USA and has increased its market share by as much as 14% during the past five year period. It is the fastest growing segment in the Construction Industry for residential house construction.

By building your houses Modular, you can cut valuable construction time, build in a controlled environment [that protects workers and materials] and keep costs under control, allowing you to provide higher quality construction, at more competitive price.

When we help you to set up a **MODULAR HOUSING MANUFACTURING PLANT**, we will train your employees how to assemble and build quality housing, using the latest building methods and technologies for the 21st Century.

MODULAR CONSTRUCTION offers the homebuyer and commercial customers a higher quality building that is built using 20% more materials, yet allows you to pass on the savings to your customers through a lower per square meter price.

MODULAR HOUSES are 95% completed inside the factory and allows the buyers to move into their new home within 4 to 8 weeks from start to completion. Modular houses are built in sections or “modules” on an assembly line that allows each section to be completed in a shorter time period. While one group of employees are assembling and building the floors, the second crew is building the walls and at the same time, the third crew is finishing the ceiling assembly.

When the walls and ceilings are fitted onto the floor decking, the module is ready for finishing work on the inside. When this section moves to the next Station, the wiring and plumbing are installed, interiors finished and prepared for painting, kitchen cabinets and counter tops installed and flooring and carpeting set in place.

During this phase of the process, and after the insulation is fitted inside of the exterior walls, the windows and doors are set in place, sheathing applied and siding is installed, making the house ready for delivery to the building site.

When the house was being built in the factory, a crew of workers were already preparing the foundation and installing the basement walls on the building site, getting the property ready for the house to be set.

Once, each of the house sections are completed in the plant, they are set on a flatbed trailer and delivered to the building site. A crane is already in place, and lifts each section from the trailer, setting them onto the foundation.

A Set & Finish Crew is sent to the property to fit each of the sections together and enclose the house so it is secure and weatherproof. All final siding is added and the roof sections are sealed in just a matter of hours.

By building houses in this Modular method, we are able to build more houses per year and can PRODUCE, in average, between 300 to 500 houses all year round, working one shift. Since we purchase our building materials and supplies in larger quantities, we can pass the savings on to the customers, giving them a higher quality home for a lot less money and time, than if it was built on site by a smaller construction crew.

The size of a house may vary from 700 to 3,000 sq. ft. (~70 to 300 sq.m.) and bigger. The plant also is able to produce multi unit, 2 to 3 story apartment or condominium complexes, hotels or motels on need basis. Almost everything builds and installs in the plant and house is coming out 95% ready.

MODULAR HOUSING CONTRUCTION allows you to build more energy efficient housing for your customers and because of the savings, the buyer can move into their house more quickly, while the builder can earn more profits from higher sales since he can keep workers employed all year round. Based on the US prices for construction materials, the production cost of one sq. ft. is approx. \$25 to \$30 (\$250 to \$300 per square m.) and each plant can produce **50000 square meters per year**, working only one (1) shift, with gross annual sale of **\$25,000,000.00 or \$30,000,000.00** or more

We, at BUSINESS DEVELOPMENT INTERNATIONAL, offer you a long-term commitment and our full support, in building a MODULAR HOUSE MANUFACTURING PLANT in your country. We can offer a full Turnkey Package that will provide a complete layout and design of the plant and training (in Russia and USA) for both, Management and Employees to learn US construction methods.

What sets us apart from other design firms, is that we also offer the Traditional House Designs as well as Multiunit apartments and hotels/motels, that many buyers are familiar with, and we bring it all together, by using the latest technologies and energy efficient practices to make every home comfortable and affordable for everyone.

For additional information on setting up a MODULAR HOME PLANT, please contact **Mr. Roman Shimonov** at:

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WHY BUY MODULAR HOUSING?

WHAT IS A MODULAR HOUSE?

Modular houses are full sized homes that are built in sections in a factory and shipped to the job site for assembly by the Builders. Modular houses are **95% completed when shipped.**

MODULAR IS NOT THE SAME AS MANUFACTURED HOUSING

Modular units are constructed the same way that state and local building codes require and are subject to the same zoning regulations as site built homes.

MODULAR HOUSING GIVES YOU GREATER VALUE FOR YOUR MONEY

When you add up the labor, materials and time saved to build a Modular House, you wind up with a house that is lower in price than site built homes of comparable size. Since our homes are Energy Efficient, as well, you save money in the long run on heating and cooling bills.

WHY YOU SHOULD BUY MODULAR

Modular houses are built inside of the factory and out of the weather to prevent warping, twisting and exposing the lumber to the elements. Since we also purchase in Carloads directly from the Lumber Mills, we are able to buy Superior Quality Lumber instead of graded lumber. With less waste and down time in the plant, it is actually less expensive to use quality materials and pass the savings on to the customers.

HOW ENERGY EFFICIENT IS MODULAR HOUSES?

Each of our Modular Houses earn the ENERGY STAR Label because we use Premium products and materials to make these homes last. By using a specialty Fire Resistant Sprayed Insulation over Fiberglass Batts, we offer a Truer R-Value that far exceeds the R-values of typical fiberglass insulation. Windows and Doors are sealed as well as every opening created by drilling for electrical wiring and plumbing lines. Air infiltration control is one that is most often overlooked with site built homes. An extremely high percentage of heat and air conditioning in a home is lost through cracks and openings in ceilings and walls. When your home is factory built, all seams and joints are caulked and sealed to prevent heat loss. Our attention to details is your assurance that your home is free of drafts and cold spots.

WHY ARE MODULAR HOUSES SO MUCH LESS EXPENSIVE THAN SITE BUILT HOMES?

For starters we have a much more efficient use of labor in the plant and our workers develop a system that offers a higher productivity in the plant. We also have less waste, since materials are utilized more efficiently. Cuts off's from lumber are made into fire stops and backing in the walls for hanging the wall cabinets. Finally, we can eliminate problems that site built homes experience, involving thefts and vandalism. When the Modular Home is delivered to the site, the crane lifts the Boxes onto the foundation and in one day, the house is fully "locked down" and secured. All loose materials are stored inside and out of sight.

THE MAIN ADVANTAGES [OF MODULAR HOUSING] IN A NUTSHELL

So in addition to the above information, we offer superior designs and greater flexibility to the Builders and the homeowners. Modular housing allows the buyer to order and move into their new house in less than 60 days, compared to 6 months, or longer, for site built homes.

Modular houses are 95% completed with the kitchens, flooring, carpeting, dormers, wallpaper and bathrooms all installed. Overall savings can average 50 to 60% over stick built housing. What this does is it allows the buyers to put these savings back into their homes in Upgrades to increase their equity.

When you decide on your next home, specify to your Builder that you want a Modular System to assure better quality that you deserve.

CUSTOM HOMES INCLUDE THE FOLLOWING MATERIALS:

FLOORS:

2" X 10" 16 inches on center with solid block bridging.

Front and Rear Perimeters are double 2" X 10" framing.

Floor framing of each marriage wall is double 2" X 10's with laminated layers in the center.

Decking is 3/4" plywood Tongue and Groove.

WALLS:

2" X 6" exterior walls on 16" centers with R-19+ insulation

Interior walls are 2" X 4" on 16" centers

Mating Walls are 2" X 3" 16" on centers

Exterior 1/2" sheathing

Mating Walls are covered with insulated sheathing

All walls are 1/2' drywall, smooth finished, primed and painted

ROOF & CEILINGS:

Ceiling Heights are 96" with smooth finished drywall

True R-38 Cellulose Insulation 12"

25 year Warranty Asphalt shingles over 15# felt paper

Starter row of roof is covered with 36" Ice and Water Shield

Fascia & Drip Edge of White Aluminum

All Eaves are white-vented soffit

Standard Roof Pitch is 5/12 swing hinge on 16" centers

Cape Cod Roofs are 12/12 pitch on 16" centers

Gable end overhangs and over ridge vents are standard

Cape Cods homes feature 2" X 6" rake boards & Gable end louver vents

2'X 6' fascia boards

KITCHENS:

Standard Kitchens include:

Wood Cabinetry [choice of colors, wood and designs]

36" over refrigerator cabinet

Crown moldings over cabinets

Drawer Base Cabinets

Extra Deep double bowl st. st. sink

Sq. edge Formica Counter tops with backsplash

Most cabinets include base Lazy Susan and corner Wall Cabinet

Single Faucet lever with Spray

Range Hood with vented 2-speed fan

Electrical Range Hookup 220V

Recessed Light over Sink

BATHS:

Standard Baths include:

- Wood recessed medicine cabinet with lighted bar
- One Piece Fiberglass/Shower Stall Unit [color choices]
- Cultured Marble China Sink/Wood Cabinet
- Ceiling Vent and light with separate switches
- Chrome Bath accessories
- Single Lever faucet and Shower mixing valve
- 1.6 gal white porcelain water saving toilet/seat

INTERIOR:

Kitchen, Dining area and Baths feature no wax vinyl floor coverings
FHA approved stain-resistant plush carpeting and padding installed through
balance of home
Dining Room includes carpeting and padding
Closets are fully trimmed with ventilated wired shelves
Lock sets installed on all swing doors. Privacy locks on bedroom and bath doors
Each home includes all interior lighting packages with Brass dining room
Chandelier
Interior Doors are White Painted Colonial Panels with 3 hinges and white painted
trim
Door, window and base moldings are full profile, colonial style
Electric front and back door chimes

EXTERIOR:

Brass light fixtures at entry doors
Vinyl Double Hung/Low E glass/Energy Star Rated/Tilt features for cleaning
Fiberglass or Steel 36" Insulated Panel Door with Window & Sidelights
Rear Door is 9 Late colonial 32"
Sliding Vinyl Patio Doors with Insulated glass off kitchen area
Vinyl Siding 4/4 profile with choice of colors
Louver Shutters included on front of house

ELECTRICAL:

Electric baseboard heat with individual wall mounted thermostats or
Forced Air gas/propane furnaces and all ductwork and heat runs
GFI Protection in bathrooms and kitchen as required by code
A 40 breaker 200 Amp panel box is standard
Two exterior weatherproof receptacles on GFI circuits are included
Smoke detectors in all rooms and in basement

PLUMBING:

Well and Septic provided if local water and sewer are not available
All fresh water supply lines are copper.
Shut-off valves under each sink and toilet
Drain waste and vent pipes are PVC schedule 40 to meet local codes
Shower mixing valves are Anti-Scald
50 gallon Energy Saver hot water tank [gas or electric] for basement installation

BDI, INC. WILL PROVIDE THE FOLLOWING:

1. SETTING - UP and START-UP the PLANT

2. TRAINING PLANT PERSONAL

3. INSTALLATION OF THE EQUIPMENT & ETC.

- Design & layout the various technological STATIONS for manufacturing wood framed housing that will be constructed inside the plant.
- Train and supervise Plant Management and Production Line Employees on the various duties and responsibilities for the daily operations of the production lines in USA and Russia.
- Train and supervise House Site Installation Crew in the US and Russia.
- Set up and train Office Personnel to learn the housing designs, floor plans, drawings and Sales responsibility for Marketing & Selling modular houses to the buyers.
- Set up and install a complete Computerized Office System for CAD Program Design of production Homes.
- Prepare all design and engineering drawings for the Floor Plan of the existing Plant.
- Prepare all design and drawings for Plant equipment in accordance with the Floor Plan.
- Supervise all equipment installation in the plant.
- Start-Up the plant and provide operational supervision for the first Two (2) months.

Total:

US\$ 450,000.00

4. EQUIPMENT TO BE INSTALLED IN THE MODULAR HOME PLANT:

- Provide complete Plant Drawings for the various Stations inside the plant that will include all necessary building improvements for improved production and material replacement schedules.
- Set up each of the Stations where the houses are assembled. The number of stations will be determined by the size of the building and the production needs.
- Layout, design, build and install “Jigs and Assembly Tables” required at the various stations for building exterior and interior walls; Layout and build Mezzanine Deck for the assembly and construction of Ceilings and roof sections of the houses.
- Supply all necessary equipment for these stations that will include: floor rollers, tracks, overhead cranes [up to 2 ton capacities] at selected stations, scaffoldings, stages, extension cords, ladders, 4 unit lifting jack [for finished houses] and all necessary hand tools required for assembly work.
- Electric and air driven power tools such as saws, drills, screw guns, staplers, nailing guns, caulking and adhesive guns [in sufficient quantities] needed for each worker to complete their jobs at the various stations. Panel, Table Saws, Radial Arm Saws, Air Compressors to operate tools, lifts and adhesive pumps.
CARRIER TRUCKS: for moving the houses to the building sites we will provide 2 trucks and 4 carriers/trailer to place houses on for delivery to building site. Each house will need 2 carriers. A 2-story house will need 4 carriers. Smaller houses less than 10 meters long [30 ft] both boxes can be shipped on 1 long carrier. Extras are needed to keep deliveries moving. These are returned after each house is delivered.
- Handcarts, dollies, paint sprayers and equipment.
- OFFICE EQUIPMENT Tables, chairs, desks, filing cabinets, Auto-Cad computer, printer, copy machine, CAD system for drawings and prints.

Total:

US \$ 750 000.00

5. BUILDING MATERIALS FOR THE FIRST 10,000 sq.ft. Of HOUSES:

Wood framing lumber for walls, floors, ceilings, and roofs
[2 x 4", 2 x 6", 2 x 8", 2 x 10"s].

Plywood and OSB decking and sheathing;

Truss plates, fasteners, tie down straps, hangers, mending plates
& Truss swing hinges;

Steel plates and straps for shipping;

Drywall
[Gypsum boards];

Electrical supplies and wiring;

Plumbing lines, fittings, and pipes;

Plumbing appliances and fixtures,
[Tubs, showers, toilets and sinks];

Cellulose insulation for walls and ceilings;

Light fixtures, paint and wallpaper;

Kitchen cabinets, counter tops and sinks;

Vinyl flooring, carpeting, tile and ceramics;

Windows and doors [exterior and interior doors],
Locks, interior trim;

Vinyl siding and Soffit and fascia materials for exterior trim and roofing materials.

Foam glue and Adhesives /55 gallon drums, boilers and etc.

Total:

US \$ 300 000.00

6. MISCELLANEOUS EXPENSES:

- a.) Advertising and promoting materials of the modular technology and related literature.
- b.) Also including logistic, travel, legal fee and other related expenses.

Total: **US \$ 100 000.00**

7. SHIPPING (SEE CONTRACT)

Total: **US \$ 150 000.00**

8. ESTIMATED 3 MONTHS PAYROLL (not included in partnership)

During training in the US and Russia, installation and start up of the plant, BDI, Inc. will cover an estimated payroll for the first 3 months as follow:

- a. General Labor (70 workers, \$500.00 each per month) USD 105,000.00
- b. Engineering and Administrative labor USD 55,000.00

Total: **US \$ 160 000.00**

AMOUNT

<u>1, 2 & 3 SERVICE AND SUPERVISION</u>	<u>US \$ 450,000.00</u>
<u>4. EQUIPMENT</u>	<u>US \$ 750,000.00</u>
<u>5. HOUSE MATERIALS</u>	<u>US \$ 300,000.00</u>
<u>6. MISCELLANEOUS EXPENSES</u>	<u>US \$ 100,000.00</u>
<u>7. SHIPPING (SEE CONTRACT)</u>	<u>US \$ 150,000.00</u>
<u>8. ESTIMATED 3 MONTHS PAYROLL</u>	<u>US \$ 160,000.00</u>

GRAND TOTAL OF THE CONTRACT: USD 1,910,000.00

REQUIREMENTS TO THE BUILDING OF THE PLANT (in general):

Lot size – 2 hectares

Width of the building ~ 40 m

Length ~ 150 m

Height – 7.0 m to 9.0 m

Distance between columns – 20 m

Shape: square, or U-shape, or L-shape

Floor – level and smooth

Building should have provisions for overhead cranes, including up to 20 tons capacity.

- The Buyer must present to the Seller Floor Plans of the proposed Plant;
- The Seller, within 20 days from the presentation of above Floor Plans must approve or disapprove suitability of this Plant to the Seller Technology;
- The Buyer, within reasonable time, must make changes to the Plant building in accordance with the Seller's recommendations;

IMPLEMENTATION OF THE PROJECT

PHASE 1 – Prepare all technical documentation and drawings of the plant floor plan and technological lines (month 1, 2,3);

PHASE 2 – Order and Build all equipment per technological line (month 2, 3, 4);

PHASE 3 – Shipping of the equipment (month 4, 5);

PHASE 4 – Setting up of the plant and Training of the Key personnel in the US (month 4, 5, 6);

PHASE 5 – Training of the local personnel and Plant Start Up and production of the first 1,000 sq.m. (month 6,7);

The key personal, 5 to 6 people, will be trained in the US and Russia.

This training program gives the first group of employees a chance to see all of the various stages that the house goes through to be built.

These workers become the Crew Chiefs and Foremen or Forewomen who help train the rest of the workers.

One Employee also is trained as the Quality Control Supervisor to see that all of the work is completed as required.

One Employee is trained as a Designer.