



Electrical Consulting Engineers Engineered Wood Products

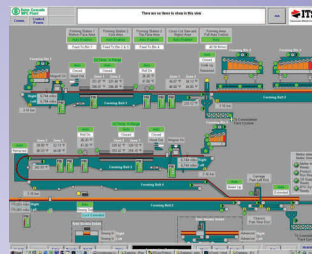
Over 80 major projects on five continents:

- ◆ North America, South America
- ◆ Europe
- ◆ Asia
- ◆ Australia

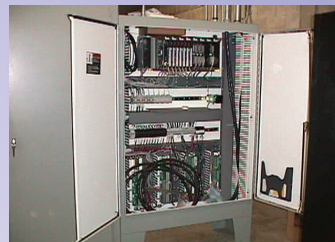


Specializing In:

- ◆ Electrical Design
- ◆ Servo Controls Systems
- ◆ PLC and HMI Programming
- ◆ PLC/HMI Network Design
- ◆ System Integration
- ◆ SQL Database Design
- ◆ Start-Up Assistance & Field Services
- ◆ OEM Support
- ◆ Equipment & Process Simulation Programs
- ◆ North American control technology & components for European equipments



HMI & PLC
Programming



PLC System
Design

Electrical
Installation Design



We provide:

1 Electrical Design

- a *HV and MV Power Distribution*
 - ◆ Primary transformer stations
 - ◆ Secondary transformer stations
 - ◆ HV and MV switchgear
- b *Low Voltage Power Distribution*
 - ◆ Power Distribution Centers (PDC)
 - ◆ Motor Control Centers (MCC)
 - ◆ Variable Speed Drives (AC/DC)
 - ◆ Servo Drives
- c *Control Cabinet*
 - ◆ Local Control Panels
 - ◆ PLC cabinets
 - ◆ HMI consoles
- d *Auxiliary Systems*
 - ◆ Lighting
 - ◆ Underground conduits layout
 - ◆ Cable tray layout
 - ◆ Grounding systems
- e *Technical Specifications*
 - ◆ Electrical equipment
 - ◆ Electrical installation
- f *Bid Tendering*

2 PLC/HMI Network Design & Development

Automated Equipment & Facility wide Process Control Systems Utilizing

PLC Systems

Siemens S7
Allen Bradley 5000, 5 & 500
Modicom Quantum Series
Texas Instruments

HMI Systems

WinnCC & WinCC Flex
Wonderware
RS View
Intellution

3 PLC/HMI Network Design & Configuration

Equipment & Process Network Integration and Data Acquisition Systems Utilizing

- ◆ Industrial Ethernet
- ◆ Profinet & Profibus
- ◆ Device Net
- ◆ Control Net
- ◆ Remote I/O (RIO)

4 SQL Database Design

System Design & Implementation for Production Monitoring, Purchase Order/Shipments Tracking, Inventory Control, Data Logging & Monitoring as well as Quality Analysis Utilizing

- ◆ SQL Server
- ◆ Oracle
- ◆ My SQL
- ◆ Access
- ◆ .Net Technology
- ◆ Visual Basic
- ◆ C#, C++, Java

5 Additional Area of Expertise

- ◆ Equipment & Process Simulation for Supervisor & Operator Training
- ◆ Prevention Maintenance Training
- ◆ Environmental Equipment Control

6 Start-up Assistance

7 Machine Manufacturer's Support

- ◆ Control components and hardware
- ◆ PLC/HMI programming

- ◆ Data logging
- ◆ Integration to overall plant/equipment systems
- ◆ Start-up assistance
- ◆ North American components and technology for European equipments

8 PLC and HMI Programming

a Process Equipment

- ◆ Debarkers
- ◆ Flakers
- ◆ Refiners
- ◆ Dryers
- ◆ Blenders
- ◆ Resin & Wax Additive
- ◆ Forming Line
- ◆ Loader/Preloader
- ◆ Press/Unloader
- ◆ Saw Line
- ◆ Sanders
- ◆ Paint Line
- ◆ Finishing & Edging
- ◆ Conveying Systems
- ◆ Pneumatic Transport
- ◆ Heat Source

b Environmental Equipment

- RTO
- WESP
- Scrubber

c Operator Training

- Simulation Programs

d Prevention Maintenance

- Periodic maintenance sequence programs

OUR MISSION

With integrity and full commitment to service, provide our clients with the highest quality of engineering & automation services, while utilizing the latest in proven technologies.

COMPANY PROFILE

The company has been providing these services since 1976 and has presently ten (10) staff members. The principals include **Luke Doerksen**, C.Tech, **Miki Tompa**, P.Eng and **Nick Mastrangelo**, Inst. Eng.

The three principals, combined offer more than 60 years of design, programming and start-up experience in a variety of fields but have been very active in the forest related industries, such as LVL, I-Beam Assembly, Particle Board, Flake Board and Fiber Board plants. The principals are backed up with experienced engineers and designers that have been working for many years with the company and form the nucleus of the design team.

Our focus is on the implementation of cost effective power, control, instrumentation, PLC and HMI systems, best suited for the project at hand. Our goals are realized through close communication with clients and all equipment suppliers involved, as well as on site start-up assistance. This formula has proven to be the base for a successful plant start-up and operation, and ultimately, satisfied and repeat clients.

Projects Reference List

1. Alberta Energy
Blue Ridge, AB, Canada
MDF Plant
Overall Electrical Engineering
2. Allegheny Particleboard
Mt. Jewett, PA
Particleboard Plant
Overall Electrical Engineering
3. Atlantic Waferboard
Chatham, NB, Canada
Waferboard Plant
Thermal Oil System
4. Boise Cascade Corp.
Wood Fiber Plastic, Pilot Plant
Overall Electrical Engineering
5. Boise Cascade Corp.
Elma, WA
WPC—Wood Plastic Composite
New Facility
Building Siding Plant—Overall Electrical
6. CanFibre
Riverside, CA
MDF Plant—partial
Sander System
7. Canfor
Vancouver, BC, Canada
Fibre Mat Molding Plant
MDF and Manmade Fibre
8. Canpar, Ltd.
Grand Forks, BC, Canada
Particleboard Plant
Addition of complete new production line
9. CSR—Tumut
NSW, Australia
MDF Plant
Overall Electrical Engineering
10. CSR—Ipswich
QLD, Australia
MDF Plant
Overall Electrical Engineering
11. Finforest / LP
Kingslynn, UK
I-Beam Assemble Plant
Overall Electrical Engineering
12. Forex Industries
Maniwaki, QC, Canada
MDF Plant
partial Heat Source, Thermal Oil Heating
13. Georgia Pacific—Flakeboard
Sault Ste. Marie, ON, Canada
MDF Plant
Overall Electrical Engineering
14. Georgia Pacific
Monticello, GA
MDF—Mende Line
Production Line Addition
15. International Paper Masonite
Carrick-on-Shannon, Ireland
Doorskin Plant—Line 1 and Line 2
Overall Electrical Engineering
16. International Paper Masonite
Laurel, MS
Doorskin Plant
Line 3
17. International Paper Masonite
Cordele, GA
Waferboard / MDF Overlay
Panel Coat and Paint Lines
18. International Paper
Marion, SC
WPC—Special Products
Pilot Plant Addition
19. James Hardie
Blandon, PA
Siding Power
Distribution Design
20. JM Huber
Whites Creek, TN
OSB Plant
Finishing Line Design & Programming

Projects Reference List (cont.)

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|---|--|
| 21. Langboard Inc.
Willacoochee, GA | MDF Plant
Overall Electrical Engineering |
| 22. Langboard Inc.
Valdosta, GA | Waferboard Plant
partial Bark Burning and Thermal Oil
Heating System |
| 23. Louisiana Pacific Corp.
Oroville, CA | MDF Plant
Production Line addition |
| 24. Louisiana Pacific Corp.
Newberry, MI | MDF Plant
Overall Electrical Engineering |
| 25. Louisiana Pacific Corp.
Dawson Creek, BC, Canada | Waferboard Plant
Overall Electrical Engineering |
| 26. Louisiana Pacific Corp.
Sagola, MI | Waferboard Plant
Overall Electrical Engineering |
| 27. Louisiana Pacific Corp.
Tomahawk, MI | Waferboard Plant
Overall Electrical Engineering |
| 28. Louisiana Pacific Corp.
Fernley, NV | LVL Plant
Overall Electrical Engineering |
| 29. Louisiana Pacific Corp.
Fernley, NV | LVL Plant (Line 2) Addition
Overall Electrical Engineering |
| 30. Louisiana Pacific Corp.
Wilmington, NC | LVL Plant (Line 1 and Line 2)
Production Line addition |
| 31. Louisiana Pacific Corp.
Waterford, Ireland | OSB Plant
Overall Electrical Engineering |
| 32. Louisiana Pacific Corp.
Swan River, MB, Canada | OSB Plant
Overall Electrical Engineering |
| 33. Louisiana Pacific Corp.
Athens, GA | OSB Plant
Finishing Line design & programming |
| 34. Louisiana Pacific Corp.
Carthage, TX | OSB Plant
Finishing Line upgrade/modification |
| 35. Louisiana Pacific Corp.
Jasper, TX | OSB Plant
Finishing Line upgrade/modification |
| 36. Louisiana Pacific Corp.
Hayward, WI | EWP—Trim Product
Finishing Line upgrade/modification |
| 37. Louisiana Pacific Corp.
Thomasville, AL | OSB Plant
Finishing Line design and programming |
| 38. Martco Limited Partnership
Lemoyen, LA | OSB Plant
Finishing Line design & programming |
| 39. Martin Lumber Company
Alexandria, LA | Waferboard Plant |
| 40. Masonite International
Laurel, MS | Doorskin Plant—Line 1 and Line 2
Overall Electrical Engineering |

Projects Reference List (cont.)

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|--|---|
| 41. Masonite International
Laurel, MS | Computerized/Automated
Doorskin Paint Line |
| 42. Medite of Europe
Clonmel, Ireland | MDF Plant (Medium Density Fiberboard)
Overall Electrical Engineering |
| 43. Norbord Industries
Inverness, Scotland | OSB Plant
partial Heat Source, Bark Burning,
Thermal Oil Heating System |
| 44. Norbord (formerly I.P. Masonite)
Cordele, GA | Structural Engineered Timber Products
Pilot Plant Overall Electrical Engineering |
| 45. Paragon Panels of Alabama LLC
Clayton, AL | MDF Plant
Design and Programming for Refiner Area |
| 46. Potlatch Corp.
Bemidji, MN | Waferboard Plant (original plant)
Overall Electrical Engineering |
| 47. Potlatch Corp.
Cook, MN | Waferboard Plant (original plant)
Overall Electrical Engineering |
| 48. Potlatch Corp.
Bemidji, MN | Waferboard Plant
New Line addition |
| 49. Potlatch Corp.
Cook, MN | OSB Plant
Line 2 Overall Electrical Engineering |
| 50. Rexwood
New Liskeard, ON, Canada | Particleboard Plant
Bark Burning and Thermal Oil
Heating System |
| 51. Saskfor, MacMillan Bloedel
Hudson Bay, SK, Canada | OSB Plant
Sawing/Board Handling and
Heat/Energy System |
| 52. Shendor
Shenyang, China | MDF Plant
Design and Programming |
| 53. SierraPine
Rocklin, CA | MDF Plant
Refiner Addition |
| 54. TAFISA Canada
Lac Megantic, QC, Canada | OSB Plant Dryer
System Line 1 and Line 2 |
| 55. TAFISA Canada
Lac Megantic, QC, Canada | OSB Plant Dryer
System Line 1 rebuild |
| 56. Trust Joist MacMillan
East Kentucky | LSL Plant (Laminated Strand Lumber)
Overall Electrical Engineering |
| 57. Uniboard Canada Inc.
Sayabec, QC, Canada | MDF Plant
Dryer System design and programming |
| 58. Voyageur Panel / Boise
Barwick, ON, Canada | OSB Plant
Overall Electrical Engineering |
| 59. WestPine MDF
Quesnel, BC, Canada | MDF Plant
Overall Electrical Engineering |

Projects Reference List (cont.)

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| 60. Weyerhaeuser Corp.
Marshfield, WI | Sander Line
(addition) |
| 61. Weyerhaeuser Corp.
Moncure, NC | Particleboard Plant
partial Power Distribution and Medium
Voltage Motors and Controls |
| 62. Weyerhaeuser Corp.
Elkin, NC | OSB Plant
Dryer, Heat Source, and Flaker addition
and optimization |
| 63. Weyerhaeuser Corp.
Heaters, VA | OSB Plant
Drying and Heat Source System |
| 64. Weyerhaeuser Corp.
Edson, AB, Canada | OSB Plant
Finishing Line design and programming |
| 65. New Wood Corporation
Elma, WA | WPC Facility - Plant Re-Start
HMI Control Platform & Historian Upgrade
Programming & Production Site Support |
| 66. Uniboard
Moncure, NC | MDF Plant Relocation
Detailed Electrical Engineering & Design |
| 67. Oris LLC
Tchaikowsky, Russia | OSB Plant
Electrical Design of Resin & Wax System.
Vendor Electrical Documentation Review &
Approval. |
| 68. Masonite International
Laurel, MS | Doorskin Plant
MACT Compliance Upgrade Electrical
Engineering & Software Development for Flue
Gas Bio-Scrubber, & HEP Fuel System.
Operator Training via Simulation Package
EPSS™ via Virtual Environment. |
| 69. KiOR Inc.
Columbus, MS | Bio Fuel Plant
Electrical Controls Design, PLC & HMI
Programming for Green End, Drying & Hammer
Mill Processing Areas. |
| 70. Flotech
Michigan, USA | Bio Gas Equipment
Electrical Design of Bio Gas Compression System |
| 71. Lee Energy Solutions
Gunthersville, AB | Pellet Plant
Field Commissioning & Dryer System Start-Up |
| 72. Geneva Wood Fuels LLC
Strong, ME | Pellet Plant
Electrical Controls Design,
PLC & HMI Programming of Dryer System |

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| 73. Mt. Lehman Greenhouses
Mt. Lehman, BC | Electrical Design, PLC & HMI Programming of Flue Gas abatement equipment. |
| 74. Rainbow Greenhouses
Chilliwack, BC | Electrical Design, PLC & HMI Programming of Flue Gas abatement equipment. |
| 75. Vander Meulen Greenhouses
Abotsford, BC | Electrical Design, PLC & HMI Programming of Flue Gas abatement equipment. |
| 76. Masisa
Montenegro, RS | PLC & HMI Re-Programming of Press Outfeed & Finishing Line Equipment. |
| 77. Spirit AeroSystems
Wichita, KS | Boeing 787 Production Equipment:
1- Nose Piece Mandrill Rotational Tool
2- Automated Scaffolding
3- Process Automated Pneumatic System
4- Composite Forming Production Equipment |
| 78. Spirit AeroSystems
Kinston, NC | Boeing 787 Production Equipment:
1- Process Automated Pneumatic System |
| 79. Boeing
Everett, WA | Boeing 777 Production Equipment:
1- Main Landing Gear Loader
2- BPS Lean Automated Production Line
Electrical Design
3- Wing Body Join Tooling Electrical Design
4- Final Body Join Tooling Electrical Design
5- Equipment and Personal Material Lifter |
| 80. Boeing
Renton, WA | Boeing 737 Production Equipment:
1- Unit #4 - Wing Body Join Tooling
Electrical Design, PLC & HMI Programming |
| 81. NASA | Automated Tooling Electrical Design |
| 82. EMBRAER | Automated Tooling Electrical Design |
| 83. Maple Leaf Food
Ontario, CAN | Hot Dog Accumulation System
Electrical Design, PLC & HMI Programming |



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