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# Data-driven Intelligence

Supply Chain Optimization, Intelligent Logistics & Asset Management Solutions Through Big Data & Predictive Analytics

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# Radian **Overview**

Radian's mission is to provide enterprises with the most powerful data in the marine, power sports & RV industries.

Unlike aftermarket approaches, Radian devices can be activated during the manufacturing process to provide a complete history of the assets journey from the manufacturer into the hands of the consumer.

## RADIAN'S FIRSTS:

- An internal battery capable of lasting up to 5 years before ever being connected to a vehicles 12v power supply. A necessity when vehicles are not shipped with batteries from the factory.
- Ultra low cost cellular data plans by virtue of our millions of existing SIM contracts.
- Consolidated all the device management, cellular service contracts, reporting platform and business services into one solution. All this at an affordable fee.

## TODAY'S REALITY:

No data company provides this much data in real time to the marine, power sports or RV industries.

## Radian delivers **margin enhancement across the board**

(Manufacturer/Dealer/Commercial Finance)

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# Only **Radian**

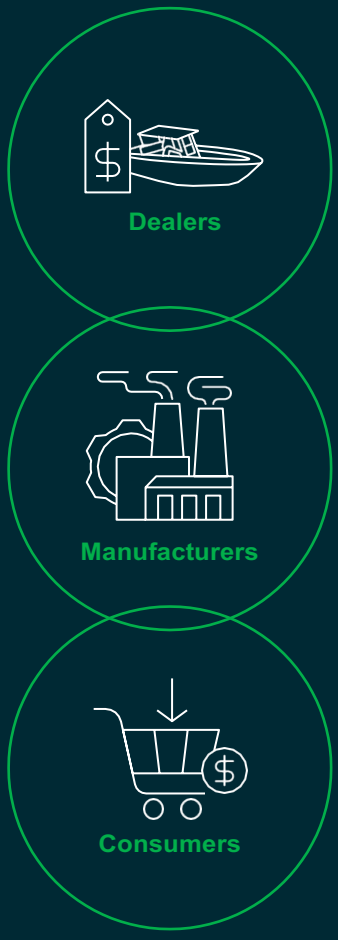
## Has a SaaS Platform for all business stake holders in the industry

- Provides data relevant to the supply side of the market
- Can deliver consumer experiential data
- Provides hardware to manufacturers at no cost
- Provides cellular data plans at a disruptive price point
- Competitors focus solely on delivering vehicle and consumer capabilities with no supply side benefits
- Experts in the marine, powersports & RV markets
- Other devices make the false assumption that whatever works in automotive will work for marine, powersports and RV as well
- Other solutions fail to provide a long term, internal power supply that will support uninterrupted reporting for 5 years

## Comprehensive, Flexible Platform for Manufacturers

Radian provides an agile and comprehensive, SaaS platform for manufacturers, their dealers and consumers alike...everybody wins bringing manufacturers, dealers & consumers together **globally!**

Radian's platform globally brings manufacturers, dealers & consumers together through shared insight and accountability.

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# Value to **Manufacturers**

## PRE-CONSUMER SALE

- Reports the location and product features of every unit in inventory
- Counts the number of days in inventory and highlights aged inventory
- Calculates the delivery time of in-transit inventory and locates delayed shipments
- Notifies when inventory has been relocated outside the parameters of dealer's geofence
- Captures actual retail delivery date
- Registers consumer warranty automatically
- Improves production efficiencies by revealing configuration trends that sell faster
- Provides metrics for fine tuning incentive programs
- Delivers activity reports associated with product demonstration

## POST-CONSUMER SALE

- Determines the actual date and time of possession to eliminate ambiguity of ownership for warranty related claims
- Monitors the health of the boat or vehicle
- Identifies service issues early and remotely
- Effectively manage recalls
- Provides data based on total hours used to guide warranty policy
- Reduces the number of trips to the dealer to provide advance notice of problems
- Provides consumer with brand extension on the platform/smartphone
- Provides a real-time market share analysis

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# Unified Solution for **Streamlined Operations**

Eliminates fragmentation of applications and processes across multiple dealership locations for the manufacturer.

Radian streamlines operations by unifying manufacturers and their dealers in decision making across a shared platform.

- **Spans the full life cycle of business operations**
  From customer acquisition to service fulfillment and beyond, Radian improves the complete life cycles of managing what you build and how you sell it to improve margins. From product management to customer fulfillment to service after the sale, Radian improves the process.
- **Go to Market faster with a lower cost with Radian**
  A faster to market equals a lower cost for launching your product for customers and dealers alike.
- **Go to Market faster with Radian**
  Radian intelligence lowers development cost and increases speed to market benefiting manufacturer and dealers alike.
- **Radian Helps Manufacturers and Dealers reach more Customers**
  Transforming your products journey through the supply chain by deploying insight to your sales team with real time intelligence.
- **Radian improves coordination between Manufacturers and Dealers to deliver higher customer satisfaction**
  Shared product configuration and model mix information streamlines decision making and fosters alignment.

## Extend your capabilities with Radian

**Calculates the delivery time of in-transit inventory**

**Sort inventory by hundreds of product related attributes**
- View inventory for each dealer
- View each product on its own details page
- Receive confirmation emails and alerts
- Built in Maintenance scheduler
- Experiential Data

**Automatic warranty registration upon transfer to consumer**

**Receive consumer experience insight**
- Captures retail delivery dates
- Improves production efficiencies
- Provides dealer sales performance metrics
- Delivers dealer activity associated with product demonstrations

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# Dealer & Marina Operators

## PRE-CONSUMER SALE

- Reports the model year & designation of every unit in inventory with options and accessories
- Identify all dealer stocking units on a map by geofence location including prep facilities
- Counts number of days before curtailments are assessed
- Identifies location of in-transit units
- Provides location of units on loan or off premise under shrink wrap or not
- Tracks demo activity of individual units
- Real time industry data allows advanced predictive trending and time for business adjustments

## POST-CONSUMER SALE

- Schedule consumer maintenance within the app
- Geographic service planning to more profitability
- Know estimated hours/miles on boats/vehicles for maintenance, trade ins & sales
- Location of assets to service
- Determine exact location of stored boats & trailers on their lots and in rack storage
- Know where and how boats/vehicles are being used
- Monitor rental fleets and club boat and vehicles use for better consumer experience
- Increases understanding of consumers use and therefore helps provide more proactive customer service

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Value to

# Commercial Finance Providers & Consumer Financing

## PRE-CONSUMER SALE

- Reduces the need and costs to send floor checkers to physically count inventory in the COVID-19 era.
- Updates actual number of days in inventory daily & predictive modeling can identify slow moving models early
- Locates individual units on demand, including demo units located off premises
- Uncovers out of trust with out physically tracking down the unit quickly
- Verify that units appearing outside the dealers geofence have been paid off
- Provide your customers with performance data
- Real time industry data allows advanced predictive trending and time for business adjustments by aggregating industry segment data

## POST-CONSUMER SALE

- Location to recover asset upon default of payment
- Authorities can locate and recover of stolen assets more quickly
- Verification of state, county and waterway as to where asset is insured to be used to protect your loss prevention
- Verification of secure storage location
- Stolen asset registry

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# Value to **Consumers**

- Draw multiple geofences around docks, storage units, driveways, etc. Alerts when the asset moves outside the geofence
- Receive email or text alerts when the asset exits an authorized geofence or anywhere the asset is completely out of the owner's sight.
- Monitor family use (speed, distance)
- Group sharing of boat and vehicle locations (find friends)
- Insurance savings on Radian equipped assets
- Authorities can locate and recover of stolen assets more quickly
- Warranty information with the manufacturer and dealer saved in the app
- Breadcrumb tracking provides evidence of past trips & return home track.
- Pre check the health of the boat
- Service reminders based on usage
- Schedule maintenance and service with their dealer
- Check battery voltage prior to use
- Monitor storage temperature in late season and while in storage
- Weather overlay

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# Value to **Insurers**

- Authorities can locate and recover of stolen assets more quickly
- Verification of state, county and waterway of where boat is insured to be used
- Experiential usage of boats, RV's and powersports equipment i.e. speed, impacts, accidents etc.
- Operator demographics
- Trailered boats/vehicle exposure
- Storage location
- Stolen boat registry

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# How Radian **Does Hardware**

10+ Years IoT Experience | Delivered Over 10M Units
Disruptive Pricing | Internal Long-life Battery on Board

## DEVICE FEATURES

- Long-life internal battery /5 years
- GPS
- 4G LTE Cat M cellular modem
- Bluetooth
- Non-volatile memory (survives power cycling)
- Internal date/time clock
- Accelerometer sensor
- Ambient temperature sensor
- Battery voltage sensors/battery bypass
- Small size 5.5” x 3.7” x 3/4”
- Input/output port
- Input/output sensors examples
  - On off switches, pumps, lights etc
  - Water, motion, door
  - External temp
  - Canvas snap
  - Reed switch
  - Leveling
  - Battery
  - Tanks
  - Pressure monitoring
  - Locks
  - Propane

## KEY ADVANTAGES

- Disruptive pricing made possible by piggybacking production with millions of devices
- Managed power conservation modes gives up to 5 years of internal battery power
- Built in tamper detection
- Actively managed OTA device health
- Rugged case/waterproof IP67
- Numerous ways to secure in place
- Internal battery shuts off when connected to 12v system preserving power for later
- Easy to Install: just activate and secure in place out of view

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# Data-driven **Intelligence**

## Hardware-M2

**Radian's best in class hardware and SaaS platform provides real time geolocation, data, and insight.** Ideal for any 12v powered or non powered assets. Radian's M2 utilizes a LTE Cat 1 modem to report time stamped, asset location, onboard sensor and product configuration data to the Radian user interface in the toughest conditions.

## SOLUTION HIGHLIGHTS

- Manage and view your assets in the Radian web and mobile user interface
- Unlimited geofencing supports asset security and triggers configurable alerts
- Up to 5 years of operation on Internal battery
- Auto detects 12v power source to preserve internal battery
- Survives the harshest temperatures (-40º F to 158º F)

## POWERFUL COST SAVING TOOL

- Do more with data analytics
- Never dead power management assures continuous reporting

**Manufacturer, Dealer & Consumer**

**GPS, Geofencing, Route Tracking**

**Waterproof**

**2 Minute Installation**

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# M2

## CELLULAR TECHNOLOGY

- LTE Cat 1 (bands 2, 4, 12)
- Compatible to 3G
  - 130 countries
- HSPA fallback bands 2, 5
- Integrated high sensitivity antenna
- Optional sim card: multiple carriers in one card for better coverage

## GPS FUNCTIONALITY

- Channels: 56
- Tracking sensitivity: 162 dBm
- Acquisition sensitivity: 148 dBm
- Location accuracy: 2.5 CEP

## RUGGEDIZED PHYSICAL ENCLOSURE

- IP67: waterproof up to 3.3 feet for 30 minutes
- Dimensions: 5.51in x 3.7in x .79in (140mm x 94mm x 20mm)
- Weight: 0.51lbs (231g)
- Optional external 12V power adapter available

## ENVIRONMENTAL

- Operation temperature: 40 F to 158 F ( 30 C to 75 C)
- Operation humidity: 20% to 90% (non condensing)
- Storage humidity: 10% to 95% (non condensing)

## APPROVALS

- FCC 47 CFR Part 15, Part 22, and Part 24
- PTCRB Certification

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# M2

## POWER MANAGEMENT

- Internal battery capacity: 8400 mAh
- Battery type: 3 x AA Li-SOCl2
- Annual self discharge less than 2%
- Power management modes:
  - Listening only mode
  - Deep sleep
- Power consumption:
  - Deep sleep: < 200uW
  - Per report energy: < 4mWh
- Up to 10,000 reports on internal battery
- Auto switching to external 12v battery
- Internal battery:
  - Stays connected in off season
  - Track inventory when now 12V external battery is available
  - Tracks stolen asset when external battery is disconnected
  - Tamper alerts

## INTERNAL SENSORS

- Internal date & time clock
- Accelerometer 3 axis
  - Senses motion
  - Senses G forces
- Ambient temperature sensor
- Voltage
  - Reports internal & external battery voltage

## CONNECTIONS

- 2-way cellular connectivity
- Harness to connect to 12v external battery
- I/O wired port
  - BLE 4.0 compatibility
  - Sensor connectivity
  - CAN connection
  - NEMA 2000 & J1939 compliant
- Over the air configuration and firmware updates

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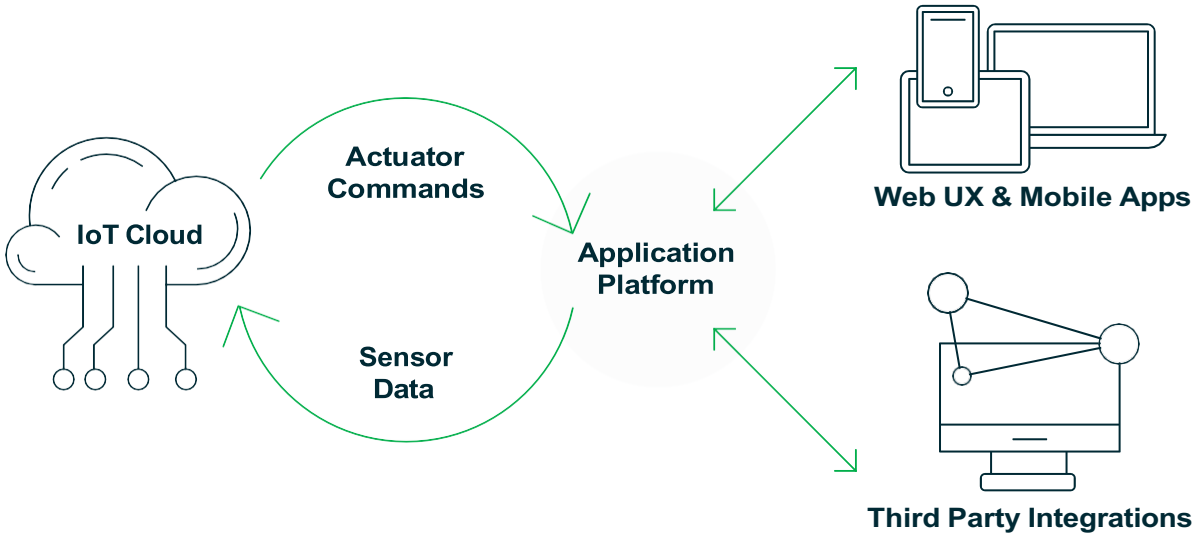
# Radian Platform




## Built for manufacturers and dealers engaged in a two-step distribution process to consumers.

- Experts in geo spatial, big data analytics, and cloud engineering
- Serves Lockheed Martin, architecting big data analytics and developed video feeds technology for drones
- Seven years of continuous development

## PLATFORM FEATURES

- Integrated analytics search and analytics are built into every aspect.
- Alerts dynamic rule based alerting engine with user friendly custom and canned alerts.
- Multi channel notifications unified notification across email, text, web, and mobile applications.
- IoT Ecommerce-Full B2B2C ecommerce solution supporting order management, invoicing, multi phase subscription management, multiple payment gateways, and billing system integration.

## KEY ADVANTAGES

- Massively scalable, highly flexible platform accelerating the launch of IoT applications at minimum risk and cost.
- Provide business value to multiple stakeholders throughout the supply chain on a single platform..
- Unlike many “GPS” platforms which are device centric, our platform supports different application domains, including automotive, marine, power sports vehicles, recreational vehicles, trailers and others.

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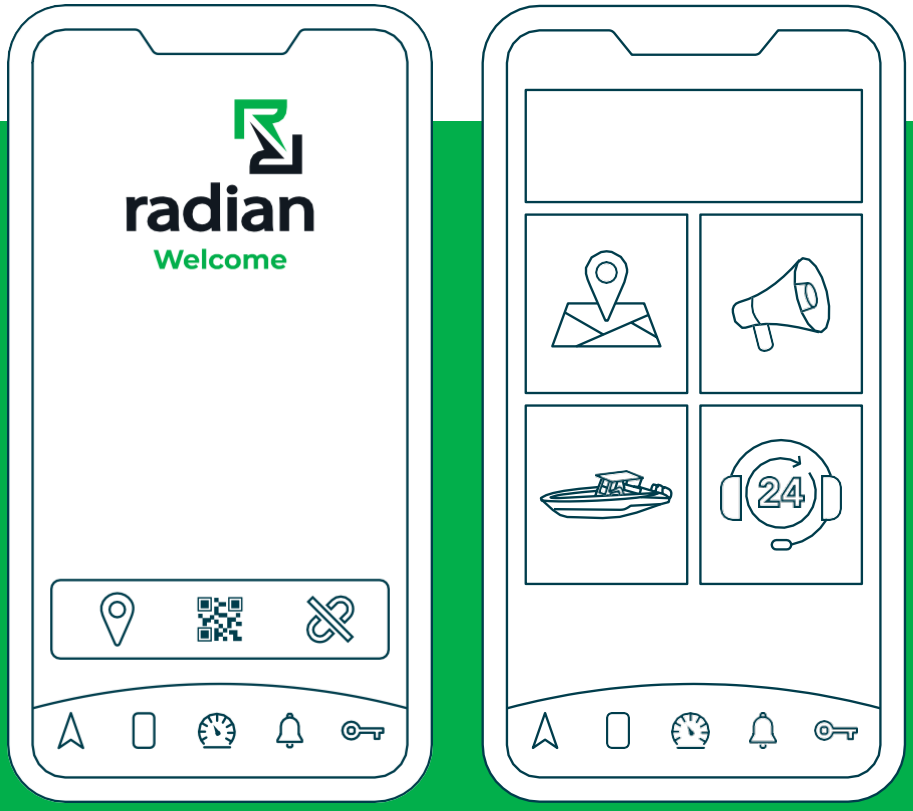
# Radian Platform




## WEB UI

- Fully responsive design
- Plug in module promotes reusability
- Plug in widgets register with actions
- UI rendering managed by roles, permissions and entitlements
- Data driven design enables change in behavior without deployment
- User SDK's accelerate TTM

## SMART MOBILE APPS

- Ionic/angular JS code once and deploy to App Store & Play Store
- Dynamic UI rendering managed by roles, permissions and entitlements
- User SDK's accelerate TTM
- Same security as web apps

## FEATURE HIGHLIGHTS

- Flexible organizational hierarchy
- Modular architecture
- Global search
- Identify & access management
- Brand management for customer branding
- Integrated analytics
- Alerts
- Multi channel notifications
- Advanced mapping
- B2B commerce integration with support for:
  - Order management
  - Invoicing
  - Multi phase subscriptions
  - Multiple payment gateways
  - Billing system integration

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# Radian Platform

Built with modern architecture that is extensible, configurable for scalability, flexibility and security

## ARCHITECTURE

- Microservice architecture
- Features developed as APT first microservices
- Swagger specs complied into API client for multiple languages
- Roles & permissions on every Microservice

## CONFIGURABLE

- Highly available uptime 99.99%
- Simplex data driven architecture
- Query DSL multiple backends
- Rules based access control
- Hierarchical state machines
- Branding portal
- Configurable data processing
- User defined dashboards
- Integration of 3rd party services
- InfoCards custom content w/o client side code
- API accessible

## SECURITY

- All data protected by roles and permissions
- Encryption for data in flight and at rest
- JWT identity & access services
- Data only accessible using microservices
- All microservices secured by roles & permissions including from 3rd party systems
- Microservices only accessible through service catalog entitlements
- VPN access only for developers, all employees have background checks

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# Leverage the Power of IoT & AI with Radian

"In today's economy, nearly every CEO is tasking his or her organization with collecting big data, as determining how to effectively gather and utilize big data can provide significant competitive advantages."

## Collect the right data from the beginning instead of an after thought

**CREATED:**

- Taxonomy and ontology that defines and normalizes data attributes and attribute values
- Attribute values are collected, created, and augmented to provide the entire product configuration complete with options and accessories

**GATHER:**

- Structured attributed data
- Sensory data
- Experiential use data
- Unstructured data
- GPS location information
- Sensor telemetry
- Ingesting external data personal information, events, weather overlays, and banking information into the Platform

**APPLY:**

- The combination of machine learning and data scientist to uncover valuable insights and patterns

**PROVIDE:**

- Comprehensive and disruptive content
- Statistical
- Diagnostic
- Predictive
- Prescriptive analytics

**DELIVER:**

- Platform provides real time data for ~500 use cases across 9 different industry organization types to support over 3000 total use cases:
  - manufacturer, dealer, marina, commercial lender, insurance co., consumer, consumer lending
- Custom analytics
  - manufactures, dealers, suppliers, trade associations, other industries, search engines, social media, advertisers, retailers, online retailers, etc.

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