



**U.S. Warehouse & Storage
Private CBRS Network
Forecast, 2021 – 2026**





U.S. Warehouse & Storage Private CBRS Network Forecast, 2021 – 2026: *CBRS Network Build, Integration and App Spending in Warehouse & Storage Buildings*

A Market Study

Published Second Quarter, 2022
Version 1.0
Report Number: 02Q2022-05

iGR
12400 W. Hwy 71

Suite 350 PMB 341
Austin TX 78738

Table of Contents

Abstract	3
Executive Summary	5
Total Spending for Private CBRS Networks, W&S Buildings	6
Table A: Total Spending for Private CBRS Networks in Warehouse and Storage Buildings, 2021-2026 (\$M)	6
Figure A: Total Spending for Private CBRS Networks in Warehouse and Storage Buildings, 2021-2026 (\$M)	7
What this means	7
Methodology	9
Sources	9
Definitions	10
Warehouse and Storage Buildings	11
Key trends in Warehousing and Storage	12
Logistics demand.....	13
Transparent supply chain	13
Automation	13
Supply chain risks.....	13
Warehouse & storage statistics	14
What is Required for a Connected Storage/Warehouse Building?	14
Private CBRS Networks in W&S Buildings	15
Outlook for Private CBRS Networks in W&S Buildings	16
Technologies and spectrum behind connected Storage & Warehouse Buildings	18
5G	18
CBRS	19
Forecast Methodology and Assumptions	21
Basic Assumption	21
Buildings Methodology	21
Methodology – Commercial Buildings	21
Table 1: Commercial Buildings in the U.S.	22
Service Annual Survey	23
Table 2: Select Expenses Categories, Warehouse and Storage, 2020 (\$M).....	23
Figure 1: Select Expenses Categories, Warehouse and Storage Services, 2020 (\$M)	24
Network Build & Operate Spending Methodology	24
Network Build Spending	24
Operational Spending.....	25
Network/Systems Integration: Assumptions and Methodology	25
Application Spending: Assumptions and Methodology	26
Private CBRS Network Spending Forecast – Warehouse & Storage Buildings	27
Private CBRS Networks Build and Operation	27
Warehouse and Storage Network Build	27
Table 3: Private CBRS Network Build Spending in Warehouse and Storage Buildings, 2021-2026 (\$M)	27
Figure 2: Private CBRS Network Build Spending in Warehouse and Storage Buildings, 2021-2026 (\$M)	27

Warehouse and Storage Operational	27
Table 4: Private CBRS Network Operational Spending in Warehouse and Storage Buildings, 2021-2026 (\$M)	28
Figure 3: Private CBRS Network Operational Spending in Warehouse and Storage Buildings, 2021-2026 (\$M)	28
Total Private CBRS Network Build and Operational Spending	28
Table 5: Total CBRS Private Network Spending for Warehouse and Storage Buildings, 2021-2026	28
Figure 4: Total CBRS Private Network Spending for Warehouse and Storage Buildings, 2021-2026	29
Private CBRS Networks Integration.....	29
Systems/Network Integration.....	29
Table 6: Private CBRS Systems/Network Integration Spending in Warehouse and Storage Buildings, 2021-2026, (\$M)	29
Figure 5: Private CBRS Systems/Network Integration Spending in Warehouse and Storage Buildings, 2021-2026.....	30
Private CBRS Networks Application.....	30
Applications spending.....	30
Table 7: Private CBRS Network Applications Spending in Warehouse and Storage Buildings, 2021-2026	30
Figure 6: Private CBRS Network Application Spending in Warehouse and Storage Buildings, 2021-2026	31
Total Spend.....	31
Table 8: Total Spending for Private CBRS Networks in Warehouse and Storage Buildings, 2021-2026 (\$M)	31
Figure 7: Total Spending for Private CBRS Networks in Warehouse and Storage Buildings, 2021-2026 (\$M)	32
Definitions	33
Definitions Table	33
About iGR	50
Disclaimer	50

Abstract

Warehouse and storage buildings in the U.S. support many different industries and supply chain logistics. Private CBRS network systems can be deployed in warehouse and storage buildings to support smart warehouse functionality, such as automation systems, IoT installations and robots. They can also be used to handle internal business communications.

For this report, iGR defines an in-building private cellular system as one that uses the U.S. CBRS band for 4G/5G-based services and is funded by a third party distinct from a Mobile Network Operator (MNO). Note that iGR includes campus-wide cellular networks within the “in-building” umbrella.

This market study provides a five-year forecast for spending for three types of spending on in-building private cellular systems using CBRS in U.S. warehouse and storage buildings. The three types of spending include:

- Network build and operational spending: the costs associated with installing and operating the private CBRS network
- Network/systems integration spending: the costs associated with designing, sourcing equipment, integrating the network and applications, etc.
- Applications: the costs associated with purchasing and licensing the applications that run on the private CBRS network.

Key questions addressed in this market study include:

- What is a private cellular network?
- How can a private cellular network be used to create a connected warehouse and storage building/campus?
- What is the primary purpose of a connected warehouse and storage building or campus and what role do these buildings play in supply chain logistics?
- What technologies are required for a connected warehouse and storage building or campus?
- What use cases are enabled in a connected warehouse and storage building or campus?
- How much will be spent to build and operate a private CBRS network in in U.S. warehouse and storage buildings from 2021 to 2026?
- What is the forecasted network/systems integration spending associated with the private CBRS network opportunity in U.S. warehouse and storage buildings from 2021 to 2026?
- What is the forecasted applications spending for private CBRS networks in in U.S. warehouse and storage buildings from 2021 to 2026?

Who should read this report?

- Systems integrators and wireless network integrators
- CBRS solutions vendors
- Mobile operators
- Infrastructure OEMs
- Financial analysts and investors.