

River Cruise Mobile Apps

2025 Annual Report

OnDeck by sourcetoad

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About OnDeck

OnDeck has specialized in innovative guest-facing software for the cruise and ferry industry since 2010. Our mission is to increase the value of both the guest's and the crew's time by building automation, communication, and self service systems.

We offer a number of custom and out-of-the-box solutions for cruise lines to increase operational efficiencies, improve guest experiences, free up crew schedules, and shorten technology ROI cycles. We offer the following products and services to our customers:

Cruise Director Platform

- Shipboard and shoreside middleware and API management
- Ship-to-shore data synchronization
- Shipboard CDN system
- Onboard event analytics
- Infinite level permissioning and user management

Mobile App-in-a-Box

Our guest mobile app works with the Cruise Director Platform to provide guests with everything from digital check-in to dinner reservations and folio management. Available for Otalio and MXP systems.

Platform Modules

- **Entertainment**: music, TV, VOD, streaming, management, and iTV systems
- **Intelligent Signage**: Advanced onboard digital signage and interactive kiosks
- **Captive Portal**: iCafe systems, and guest/crew wifi access management
- **Digital survey**: Automated digital surveys for pre-cruise, post-cruise, spa, dining, and ShoreEx reviews for app and iTV
- **Push notifications**: A full push notification module for mobile apps and iTV
- **ECS**: Our workflow-based, onboard passenger notification system

Professional Services

Sourcetoad OnDeck can help you develop the next groundbreaking solution in the Cruise industry. We provide:

- Shipboard and shoreside AI integration and development
- Custom software engineering for land and marine operations
- Documentation as a service
- 24/7/365 help and support desks

Introduction

This year's River Cruises App Report builds on what we started in 2023, when we decided to take a closer look at the digital tools being built for this unique and often overlooked part of the cruise industry. Back then, we described the River app space as the Wild West. In 2025, things feel more settled. The number of available apps hasn't exploded, but the overall quality, stability, and technical maturity have improved. We're starting to see a more consistent baseline take shape, and the gap between River and Ocean apps is beginning to narrow.

That said, River apps are still different in ways that matter. The companies behind them are structured differently. Their operational needs are simpler. Their passengers have different expectations. These differences are why we continue to treat River cruise apps as their own category, and why we find this space worth watching closely.

This report looks at the six primary guest-facing mobile apps used across major River cruise fleets as of early 2025. We've pulled each app apart, piece by piece, and documented the tools used, the features offered, and the architectural and security decisions made behind the scenes. We've compared version history, monitored updates, and tracked which cruise lines are investing in their platforms and which ones are standing still.

There's a lot of good news this year. The apps are more stable. There are fewer glaring security issues. More development teams are using crash reporting tools. Middleware adoption is up. And we're starting to see the early signs of AI and personalization creeping into the code, even if the features haven't surfaced to the user yet.

But River cruise apps still have plenty of room to grow. Feature sets remain limited. Accessibility support is often nonexistent. Guest messaging is rare. And too many apps still rely on fragile manual processes or are constrained by the limitations of disconnected onboard systems.

This report doesn't just highlight what's already happening, it also looks at where things are headed. We make predictions based on what we've seen, what's changed, and what's finally possible now that better tools are available. Our goal is to give product teams, cruise operators, and tech vendors a real-world, honest look at what's out there today and what's coming next.

Let's get into it.

New	A new addition to the 2025 report.
Updated	A significantly updated section.

Scope *Updated*

For this year's report, we focused exclusively on mobile apps designed for river cruise passengers. The apps included in our analysis met the following criteria:

- They are the primary guest-facing mobile app used by passengers while onboard.
- They are used on at least two ships within a river cruise fleet.
- They are downloadable apps available on both Android and iOS.
- They are not web-based (Progressive Web Apps), crew-only apps, brochure apps, or supplemental entertainment applications.
- They were released and tested before January 14th, 2025.

We excluded cruise lines with a primary focus on ocean or expedition cruises that only occasionally offer river itineraries (e.g., Ponant), as well as cruise lines whose only digital presence is through web-based apps like 1AVista or Marella.
After applying these filters, six river cruise apps met our criteria for inclusion: A-ROSA, *MyAmaCruise* by AmaWaterways, *AvalonGO* by Avalon Waterways, Phoenix Reisen, *Viking Voyager*, and Vodohod.

While the sample size remains relatively small and the apps are generally less advanced than those in the Ocean Cruise space, we're seeing clear signs of progress and innovation.

Technology Methodology *Updated*

Challenges with Split APKs

One of the most significant challenges we encountered in our analysis this year was the increasing prevalence of Split APKs in mobile app development. A Split APK is an application package that has been broken down into multiple files instead of a single APK file. This practice is becoming more common because it optimizes app delivery by tailoring downloads to specific device configurations, such as processor architecture, screen density, and language. While this approach reduces unnecessary file size for end users, it complicates the process of app analysis, as the components must first be recombined into a unified APK before they can be disassembled and analyzed. It's a good idea, especially for Cruise apps. It just makes our analysis more difficult.

Split APKs pose difficulties due to:

- **Recombination Complexity**: Individual components must be merged accurately without altering functionality.
- **Incomplete Artifacts**: Missing parts, such as a specific language pack, can result in incomplete or erroneous reconstructions.
- **Additional Processing Time**: Reconstructing these files increases the time and effort required for the analysis phase.

Tools Overview

Below is a brief description of the tools we used in this year's analysis, along with links for reference:

- Apktool: A free, open-source tool for disassembling and reassembling Android APK files. It enables decoding of resources to nearly original form and can rebuild them after making modifications.
- ApkEditor: A free tool that simplifies the merging of Split APKs into a unified APK for further analysis.
- MobSF: Mobile Security Framework (MobSF) is a tool for investigating the security of mobile apps on Android, iOS, and Windows Mobile. It generates detailed security reports, highlights vulnerabilities, and offers recommendations.
- Araxis Merge: A paid tool used for visually comparing and merging text files. It was instrumental in identifying changes between APK versions after disassembly.
- Visual Studio Code: A free, versatile code editor used for manual diffing and reviewing code artifacts when a previous version was unavailable for automated comparison.
- ChatGPT **and** Claude: AI-powered language models were used in tandemto support writing, provide structural feedback, and assist in synthesizing insights from technical findings.

Our Process

1. **Download Applications**: Applications were downloaded onto a Samsung S13 device. For apps unavailable in our region,sideloading was performed using the APK gathered from the APK Tools website.
2. **Extract APK Files:** APKs were pulled from the device, ensuring the correct architectural, density, and language splits for English.
3. **Merge Split APKs (if required):** When encountering Split APKs, we used APKEditor to merge the individual components into a unified APK.
4. **Disassemble APKs:** Using Apktool with stock behavior, we disassembled the APKs into their constituent components for detailed inspection.
5. **Security Analysis:** The unified APKs were run through MobSF to generate comprehensive security and functionality reports.
6. **Version Comparison:** For applications with version history, we used Araxis Merge to compare the output from Apktool across old and new versions, identifying code or resource changes.
7. **Manual Diffing:** For apps without historical versions, we manually reviewed and diffed code in Visual Studio Code to document findings and insights.

This structured process allowed us to overcome the challenges posed by Split APKs while ensuring a thorough and consistent analysis of each app.

Mobile Applications

This year, we analyzed six River Cruise mobile applications—the same number featured in our 2023 report. Two new apps made it into this year's analysis (Phoenix Reisen and Vodohod), while two apps from 2023 (American Queen Voyages and Belmond) were not included, either due to changes in availability or exclusion based on updated scope criteria.

MyAmaCruise by AmaWaterways

MyAmaCruise was released in October 2017 and works across the company's entire fleet.

A-ROSA

A-Rosa's app was released in June 2022 and works across the company's entire fleet.

AvalonGO by Avalon Waterways

The *AvalonGO* app by Avalon Waterways was released in 2018 and works across the company's entire fleet. It shares a code base with all other Globus brand apps.

Phoenix Reisen *New*

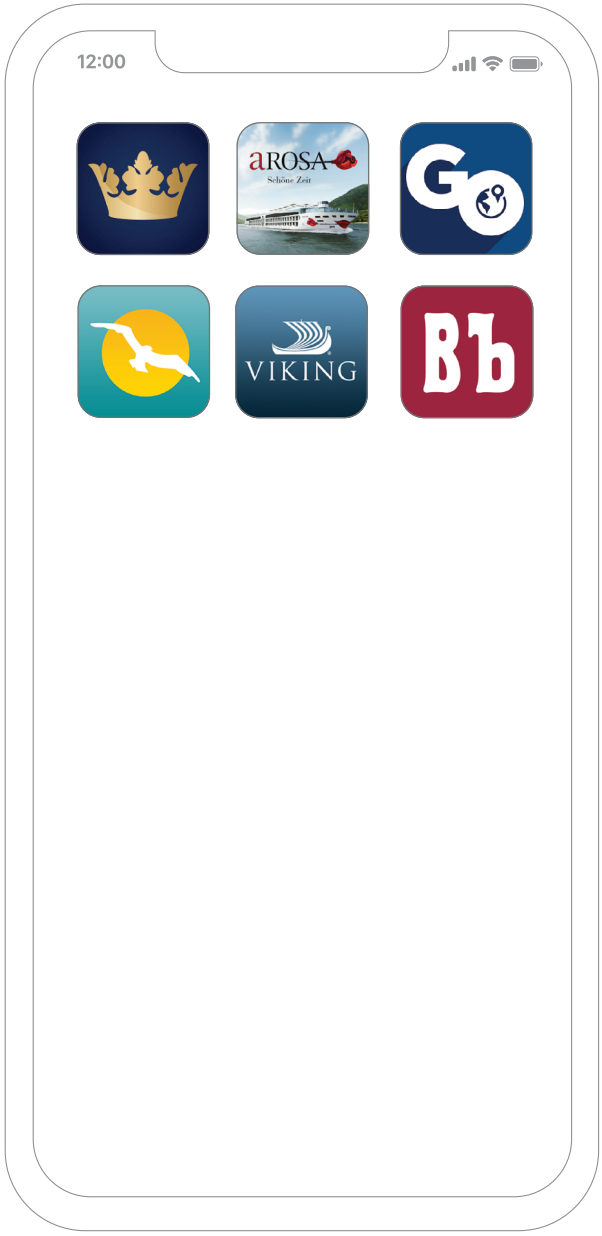
The Phoenix Reisen app was released in 2020 and works on the full fleet.

Viking Voyager

Viking Voyager was released in June 2017 and works across the cruise line's entire fleet.

Vodohod *New*

The Vodohod app was released in July 2020. It works onboard Vodohod's entire river fleet.



Availability



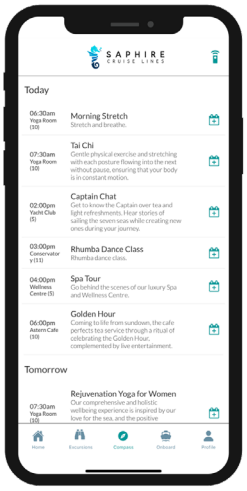
Features

Updated

The functionality of River Cruise mobile apps continues to expand, but compared to their Ocean counterparts, most still offer a more limited range of tools and guest experiences. To better analyze and compare the offerings, we categorized features into three tiers: **Common** (present in the majority of apps), **Less Common** (found in two or three apps), and **Stand-Out Features** (only present in one or two apps).

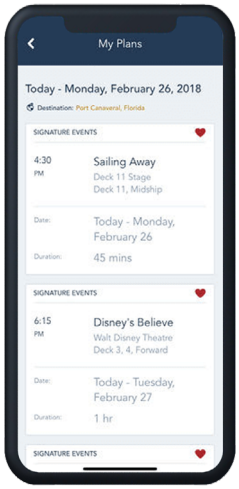
Common Features

These features were found in most of the apps reviewed and represent the baseline expectations for River Cruise mobile functionality.



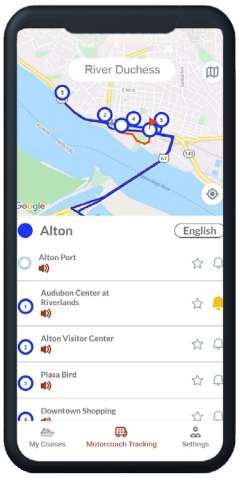
Daily Schedule

Most apps offer guests a digital version of the onboard daily schedule, including activities, excursions, and meal times. In some apps, events can be added, reserved, or highlighted before being copied to the guest's personal itinerary.



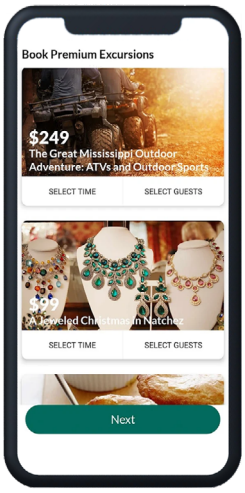
Personal Itinerary

Most apps have some form of personalized itinerary or calendar. Activities that have been marked as favorites or confirmed with a booking appear on the guest's itinerary.



Ship Tracking

Live ship tracking and route maps are now standard across the majority of reviewed apps.

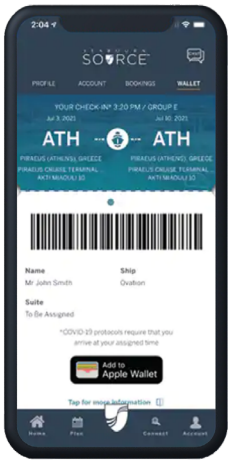


Reservations

Most cruise lines allow passengers to make or manage reservations for dining, shore excursions, or spa services.

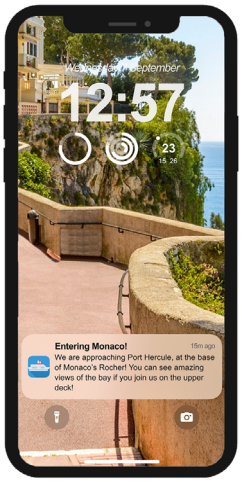
Less Common Features

These features were observed in only a few apps, but are starting to become more prevalent in the River Cruise space.



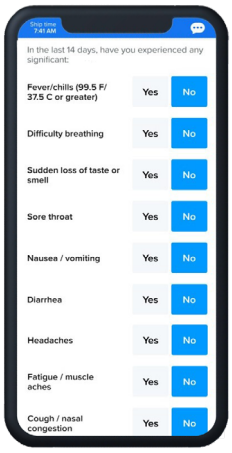
Check-In

Check-in features have been more slowly adopted in River apps than in Ocean apps, but a few have begun incorporating pre-boarding tools, allowing guests to upload travel documents, check-in, complete manifests, and access a digital boarding pass.



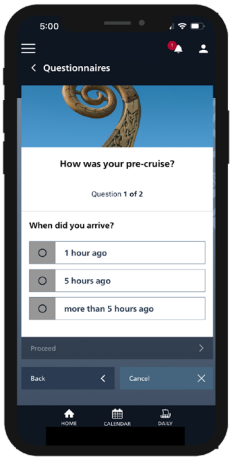
Push Notifications

A few apps support push notifications to keep guests informed of schedule changes, special events, or updates.



Health Questionnaires

Health screening functionality is available in a small number of apps, typically as part of the check-in or daily routine.



Surveys

Some apps offer built-in surveys to collect guest feedback following the voyage.

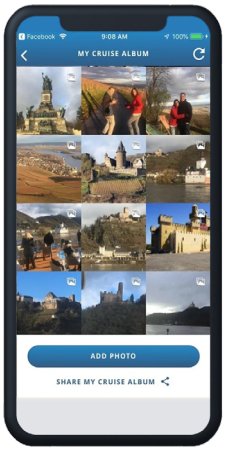
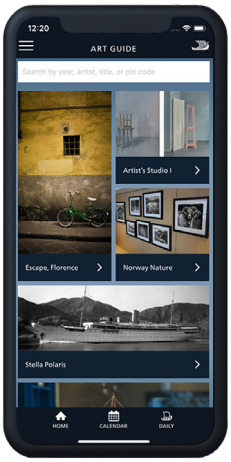


Photo Album

Several apps allow guests to upload photos during their cruise, often with the option to add travel notes and share directly to social media or email.

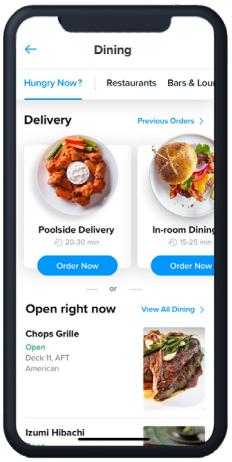
Stand-Out Features

These unique or uncommon features stood out across the apps evaluated.



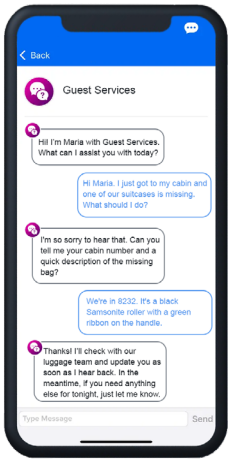
Art Guide

The *Viking Voyager* app includes a digital guide to onboard artwork and public spaces, complete with audio commentary, adding a cultural layer to the cruise experience.



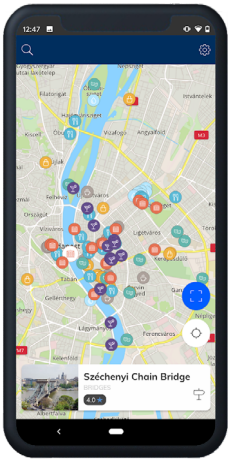
Mobile Drink Ordering

The A-ROSA app allows guests to order beverages from anywhere on the ship and have them delivered to their location.



Guest Services Chat

Vodohod's app includes a built-in chat tool to communicate with ship administrators in real time.



Offline GPS Navigation

AvalonGO enables guests to navigate ports of call without needing Wi-Fi or cellular data, a particularly thoughtful inclusion for international travelers.

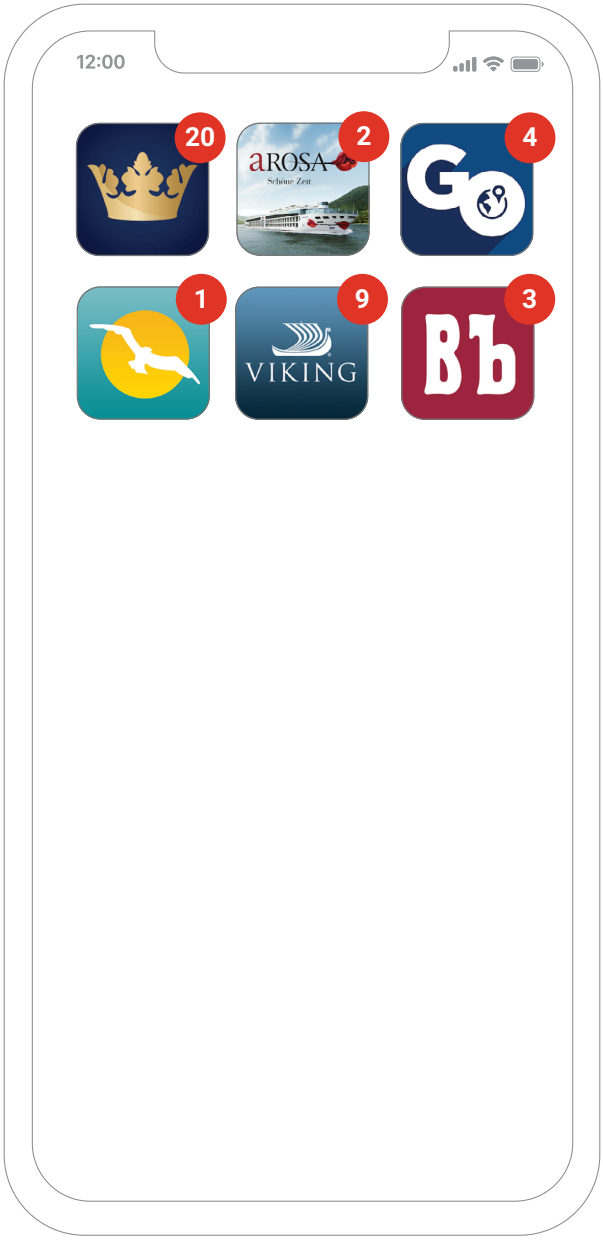
Update Frequency

Updated

The frequency of updates in 2024 varied significantly across River Cruise mobile apps, reflecting different levels of investment in ongoing improvements. *MyAmaCruise* by AmaWaterways led the pack with **20 updates**, signaling a strong commitment to enhancing the passenger experience through regular refinements. *Viking Voyager*, which also serves the cruise line's ocean fleet, followed with **9 updates**, maintaining a steady pace of feature expansions and bug fixes.

Most other River Cruise apps saw fewer updates, aligning with their simpler feature sets. *AvalonGO* received **4 updates**, while Vodohod had **3**, and A-ROSA only **2**, suggesting a more incremental approach to development. Phoenix Reisen, with just **1 update**, had the lowest activity, which could indicate fewer new features or optimizations.

These trends mirror the general state of River Cruise mobile apps: while some lines prioritize regular enhancements, others maintain a more static approach, likely due to differences in app complexity, passenger expectations, and operational needs. As the River Cruise sector continues to evolve digitally, update frequency may become a key indicator of which cruise lines are investing in long-term mobile innovation.



Technology Blends Updated

Continuing one of the of the more striking consistencies we observed across the river cruise applications in our previous report is the continued dominance of native mobile development. Of the six apps analyzed, four are still fully native, built using Kotlin or Java for Android and Swift or Objective-C for iOS. This is notable because despite the rise of cross-platform frameworks like Flutter and React Native, many development teams continue to favor native technologies, likely due to their superior performance, offline capabilities, and tighter hardware integration.

However, there has been a clear shift compared to past years:

- **Flutter** — Two apps now use Flutter, a cross-platform framework backed by Google. This marks a growing trend, as Flutter provides significant efficiency advantages, allowing developers to maintain a single codebase for both platforms while delivering near-native performance.
- **Blended Components** — One of the native apps now incorporates Flutter components, which suggests that the development team is gradually transitioning to a hybrid approach or testing cross-platform modules for future expansion.
- **React Native** — Though increasingly common in ocean cruise apps, React Native remains a minor player in the river cruise space, with just one app adopting it.
- **PWA Wrapper Application** —One of the applications analyzed was found to be a Progressive Web App (PWA) wrapper, meaning it is an extremely small application that simply launches a webview and loads a website. Since the app is essentially a shell with no native functionality, there was nothing to investigate beyond confirming its role as a direct portal to a web-based experience.

Webviews: A Persistent Trend

Among the native applications, we observed a heavy reliance on webviews—essentially headless web browsers that load external content inside the app.

This approach is especially common for:

- Dynamic content such as dining menus, daily schedules, and news updates
- Reducing development time by integrating web-based features instead of building them natively

While webviews are convenient, they can sometimes lead to performance inconsistencies and UI fragmentation, which is why their use is declining in more advanced cruise line applications.

Emerging Technologies and Performance Enhancements New

Two new trends emerged in the 2025 report (Split APKs and more feature flags) as well as one application updating their underlying React Native Engine to Hermes.

Split APKs

One of the biggest technical shifts we encountered in 2025 is the widespread adoption of Split APKs. This approach, which breaks a mobile application into multiple APK files optimized for specific devices, is now used by most of the apps analyzed.

Split APKs offer several advantages:

- **Reduced App Size** — Devices only download the required components, such as the correct screen density, CPU architecture, or language files, reducing unnecessary bloat.
- **Faster Installations** – Since devices get only the necessary files, app installation times improve, particularly in regions with slow internet connections.
- **More Efficient Updates** – Updates can be targeted to specific components, rather than forcing users to download the entire app again.

However, from a research and security analysis perspective, Split APKs create challenges, as they require recombination before the apps can be fully analyzed. This makes it more difficult to assess changes across versions and inspect embedded security mechanisms.

More Feature Flags *New*

One of the applications analyzed this year included an expanded use of feature flags, a powerful tool that allows developers to enable or disable specific functionalities without requiring a full app update. Feature flags are especially valuable for cruise lines operating multiple types of ships or those with ocean, river, and expedition brands, as they enable a single app to adapt dynamically to different ship classes, itineraries, or service offerings.

For cruise operators with diverse fleets, feature flags allow tailored experiences without maintaining separate apps for each brand or ship type. For example, a river cruise line that also operates expedition vessels can use the same core app while enabling expedition-specific features—such as zodiac excursion booking or wildlife spotting guides—only on relevant sailings. Similarly, onboard services like dining reservations or digital keys can be selectively activated based on ship capabilities.

This level of flexibility reduces development overhead, allows faster rollouts of new features, and makes it easier to test and refine functionality across different user groups. As more cruise lines expand their offerings across different market segments, we expect feature flag usage to become even more prevalent in future app iterations.

Hermes

Hermes is a JavaScript engine optimized for React Native, designed to improve app performance by shifting more work to build time rather than run time. The one React Native application analyzed now includes Hermes, enabling faster load times, reduced memory usage, and smaller app download sizes.

Given the complexity of cruise apps, implementing Hermes could have required significant development effort, but it ultimately enhances performance, particularly for devices with lower processing power or limited network access.

Security

Updated

Our analysis revealed several security vulnerabilities across the applications reviewed. While some apps implement robust security practices, others contain risks that could expose user data or make the applications more susceptible to attacks. Below are key concerns we identified.

Permissions and Vulnerabilities

- **Installations on Vulnerable Android Versions** – Four of the apps can be installed on an outdated Android version, which lacks modern security protections.
- **External Storage Access** – Multiple applications request permission to read and write to external storage. This poses a risk, as any app on the device can potentially access this data.
- **Unrestricted Activity Sharing** – Three apps allow activities to be shared with other applications, which, if improperly configured, could lead to unintended data leaks.
- **Permission to Install Other Apps** – Two apps were found requesting the ability to install additional applications, a permission that should be granted only in rare and controlled cases.
- **Weak Cryptographic Hashing** – The presence of MD5, a known weak hashing algorithm susceptible to collisions, raises concerns about data integrity and potential security breaches.

Code Obfuscation and Protection

Many of the analyzed applications implement ProGuard, a tool used for code shrinking and obfuscation. This enhances security by making it harder to reverse-engineer applications, but usage varies:

- **Partial Implementation** – Some apps apply ProGuard selectively, obfuscating sensitive business logic while keeping other sections more readable for debugging purposes.
- **Full Implementation** – A smaller subset of apps fully obfuscates their code, significantly reducing the risk of reverse engineering and unauthorized modifications.

ProGuard is particularly effective for native Android applications but can present challenges when used with cross-platform tools like React Native or Flutter, as not all libraries support obfuscation.

Security Issues in Build and Deployment

Two applications contained testing artifacts in their production releases, indicating that their development teams may not be following best practices for Continuous Integration/Continuous Deployment (CI/CD). This suggests that final builds may be manually compiled on local machines rather than going through a structured pipeline.

Risks associated with this include:

- **Unintentional Data Leaks** – Test data, including potentially sensitive information, could be included in production releases.
- **Exposure of Backend Infrastructure** – Leftover debugging artifacts might reveal details about backend systems, making them more vulnerable to attacks.
- **Higher Risk of Human Error** – Without an automated build and deployment process, there's a greater chance of misconfigured

releases containing uncommitted files or outdated security settings.

Encryption and Secure Data Storage

Several applications demonstrated good security practices by utilizing cryptographic tools:

- **Encrypted Local Storage** – Some apps use system-level secure storage solutions (e.g., libconceal.so and libconscrypt_jni.so) to protect authentication tokens and user data.
- **Database Encryption with SQLCipher** – A subset of apps implement SQLCipher, a secure extension of SQLite that provides AES-256 encryption for database files. This prevents unauthorized access to stored guest information if the device is compromised.

While encryption is not yet universally adopted across all cruise apps, its presence in some applications suggests a growing industry awareness of mobile data security best practices.

Tools and Key Players *Updated*

Bug Tracking & Analytics

Debugging and troubleshooting cruise apps in a production environment remains a major challenge, especially as river cruise technology becomes more complex. Property Management Systems (PMS) continue to grow in complexity, and onboard connectivity limitations make real-time debugging even more difficult. Compounding this issue is the increasing variety of devices guests bring on board, each with different operating systems, hardware configurations, and security settings.

Many river cruise operators still lack proper shoreside test environments that accurately replicate onboard conditions. As a result, when issues arise in production, they are difficult to reproduce, and support teams often struggle to diagnose problems without direct access to live shipboard data. While some cruise lines have begun implementing more sophisticated bug-tracking and logging tools, adoption remains inconsistent.

In 2025, we are seeing a slow but steady increase in the use of automated crash reporting, real-time performance monitoring, and event logging tools. However, many cruise lines are still reactive rather than proactive when it comes to addressing software stability and guest-reported issues.

Branch *New*

One of the analyzed cruise apps has integrated Branch, a deep linking and attribution platform designed to improve app engagement and marketing effectiveness. Branch helps track user interactions across different platforms, ensuring that passengers who click on links in emails, social media, or ads are directed to the correct in-app content, even if they need to install the app first.

For river cruise operators, Branch can enhance pre-cruise engagement, streamline onboarding, and improve guest retention by providing seamless navigation between web and mobile experiences.

While its adoption remains limited in this sector, its presence in at least one app suggests that some cruise lines are exploring more sophisticated marketing and user acquisition strategies.

Firebase *New*

Two of the apps incorporated Firebase, Google's mobile development platform that provides a suite of tools for analytics, performance monitoring, push notifications, and backend services.

With Firebase Analytics, cruise operators can track user behavior, engagement trends, and feature usage, helping them refine the app experience based on real-world data. Firebase Cloud Messaging (FCM) enables push notifications, allowing cruise lines to send updates about itineraries, onboard events, or promotional offers.

While Firebase is widely used across mobile applications, its adoption in river cruise apps is still emerging. The inclusion of Firebase in Avalon's app suggests a move toward more data-driven decision-making and improved passenger communication.
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Sentry *Updated*

Two of the analyzed mobile apps use Sentry, a real-time crash monitoring and performance tracking tool. Sentry provides detailed stack traces, allowing developers to pinpoint the exact module or line of code responsible for a crash. This level of insight significantly reduces debugging time and helps teams prioritize and resolve critical issues faster.
Beyond crash detection, Sentry also monitors application performance, identifying slow-loading screens, inefficient functions, and bottlenecks that impact user experience. As river cruise apps continue to grow in complexity, real-time diagnostics and proactive issue resolution will become essential for ensuring smooth app performance in both online and offline conditions.

AI Tooling

Artificial intelligence and machine learning are starting to make their way into river cruise applications, though adoption remains in its early stages. We identified two AI-related tools in use, though their exact implementations are not always clear.

TensorFlow *New*

One cruise line has integrated TensorFlow, an open-source machine learning framework developed by

Google. However, the specific use case is unclear. Possible applications include:

- Personalized recommendations for excursions, dining, or onboard activities based on guest behavior.
- Image recognition for features like document scanning, ticket validation, or QR code processing.

While most river cruise apps remain relatively simple compared to their ocean counterparts, the presence of TensorFlow suggests that at least one team is experimenting with AI-driven enhancements.

SendBird *New*

One cruise line is using SendBird, a platform primarily known for real-time messaging and chat integration. While SendBird expanded its focus in 2024 to include AI-powered communication tools, it is unclear if the implementation in this particular cruise app includes AI features or is strictly being used for guest messaging and chat support.

Possible use cases within the app include:

- Guest-to-crew messaging, allowing passengers to request services or ask questions.
- Passenger-to-passenger chat, enabling social interaction among guests.
- AI-powered chatbots, if implemented, could automate responses to common questions and provide basic customer support.

As SendBird shifts toward AI-driven solutions, its role in cruise apps could evolve in the coming years. Whether or not AI agents are currently being used, its presence indicates that at least one cruise line values enhanced communication tools for guest interactions.

Animation Libraries

Smooth animations and responsive visual elements play a crucial role in enhancing the user experience (UX) of mobile applications. While river cruise apps tend to prioritize functionality over design-heavy elements, we found two widely used animation libraries that help improve transitions, scrolling, and media handling.

Lottie *New*

One of the analyzed applications has adopted Lottie, a lightweight animation framework that renders high-quality vector animations with minimal performance impact. Lottie enables designers to create animations in After Effects and export them as JSON files, which can then be seamlessly integrated into mobile apps without requiring extensive development effort.

Lottie's benefits include:

- Smooth UI animations that improve app aesthetics without increasing app size significantly.
- Efficient rendering that reduces the strain on device resources, making it well-suited for mobile environments.
- Scalability that allows animations to remain sharp on different screen resolutions.

While Lottie adoption in river cruise apps remains limited, its ability to add dynamic, visually appealing animations without affecting app performance makes it a strong candidate for wider adoption in the future.

Glide *Updated*

Two of the applications we analyzed are using Glide, an image loading and rendering library designed to improve performance when handling media. Glide optimizes scrolling, video playback, and smooth transitions by efficiently managing image retrieval, resizing, and caching.

Key benefits of Glide:

- Faster image loading, especially for remote images stored on cloud servers.
- Automatic memory and disk caching, reducing the need for repeated downloads.
- Integration with animations, improving fluidity in UI elements that involve images.

As river cruise apps evolve, the use of animation and media-handling libraries will likely grow, particularly as more operators refine their UI to match the expectations set by ocean cruise lines and the broader travel industry.

Other Tools

AssaAbloy

AssaAbloy Global Solutions Marine (formally VingCard) is by far the leading provider of cabin door lock systems in the cruise industry. Integration of their libraries has been found in one of the applications, including the full SDK, and strangely, the entire API documentation. These SDKs would allow a passenger to use their phone to access the gangway and unlock their cabin door.

It is unclear however if this feature actually works onboard, or if it has been inherited from another codebase. Descriptions and reviews of the application in the app stores do not mention the mobile door locks as a feature.

CleverPush *New*

One of the applications analyzed was found to be using CleverPush, a push notification service that unifies web and mobile push messaging under a single system. While it lacks the benefits of local push notifications, which are critical for ocean cruise apps due to limited connectivity at sea, CleverPush is likely sufficient for river cruises where internet access is more stable. Its ability to streamline push notifications across multiple platforms makes it a practical solution for engaging passengers both before and during their voyage.

CruiseTraka / TripTraka

CruiseTraka (now part of TripTraka) is a white label system for allowing guests to share their journey with friends and family, and to document their trip for the occasional reminiscence. Adding these features to an application is done through the TripTraka SDK. This then allows passengers to add photos and journal entries to items in their itinerary which can be stored or shared.

FlightStats *New*

FlightStats is a widely used platform for real-time flight tracking, providing up-to-date information on flight statuses, delays, and airport conditions. Integration of FlightStats has been found in one of the applications, specifically within Avalon's app, though the extent of its usage remains unclear.

The inclusion of FlightStats suggests that the app may provide passengers with pre-cruise travel assistance, such as tracking inbound flights or offering airport transfer details. However, it is uncertain whether this integration is fully functional or if it was inherited from another codebase. The app store descriptions and user reviews do not explicitly mention flight tracking or travel coordination as a feature.

Huawei Push Kit

New

Huawei Push Kit is a messaging service that enables apps to send notifications to Huawei devices, functioning as an alternative to Google's Firebase Cloud Messaging. One of the apps analyzed includes Huawei Push Kit integration, likely to deliver notifications to users on Huawei devices where Google services may not be available.

This suggests a strategic approach to maintaining push notification functionality in regions or markets where access to standard app store services is restricted.

MTrip

New

MTrip is a travel technology provider specializing in white-label mobile apps and itinerary management solutions. Integration of MTrip has been identified in one app, likely enhancing its destination content, offline maps, or personalized travel recommendations.

It is unclear whether the cruise line is leveraging MTrip's full suite of features or if this integration was inherited from another project. The app store descriptions do not explicitly mention MTrip-powered functionality.

Open Weather Map

New

Open Weather Map provides real-time weather data, forecasts, and climate insights through its API. Integration of Open Weather Map has been found in one app, likely offering guests weather updates for upcoming ports of call and sailing conditions.

The extent of its implementation is unclear, as weather features are not explicitly highlighted in app store descriptions. However, its inclusion suggests A-ROSA aims to enhance guest planning by providing location-specific weather insights.

One Trust

New

OneTrust is a leading platform for privacy, security, and data governance compliance. One of the apps analyzed includes OneTrust integration, likely for managing cookie consent, data privacy preferences, or regulatory compliance with GDPR and other frameworks.

Its presence suggests a focus on transparent data handling, but it is unclear how prominently these controls are surfaced to users, as app store descriptions do not mention privacy management features.

PDF Processing

Two of the applications analyzed include the PDFium rendering toolkit, a lightweight PDF processing library. PDFium allows apps to display PDFs, extract data, and generate downloadable content dynamically.

In these cruise apps, its usage appears to be limited to viewing daily newsletters, compasses, and restaurant menus, providing a simple way for guests to access onboard schedules and dining options without requiring additional web-based solutions.

Pressreader

New

PressReader provides digital access to newspapers and magazines from around the world. One of the apps analyzed includes PressReader integration, with evidence of handling for both shore-side and onboard servers.

This setup likely allows passengers to read or download publications pre-cruise or while on shore excursions, ensuring access to content regardless of onboard connectivity limitations.

QR/Barcode Scanner

Updated

One of the applications analyzed includes Android MLKit, Google's machine learning toolkit for mobile devices. However, no actual machine learning appears to be in use. Instead, the app utilizes MLKit's QR Code and Barcode scanning feature.

This functionality is likely used for scanning tickets for shore excursions, onboard purchases, or accessing digital menus and other URL-based systems, improving guest convenience without requiring dedicated scanning hardware.

Survey Tools

Two of the applications analyzed include built-in survey functionality. SurveyMonkey was used in one case, while OnDeck's Cruise Director survey module was integrated into another.

Both tools enable the creation and distribution of online and offline surveys, allowing cruise lines to gather guest feedback on dining experiences, spa treatments, shore excursions, onboarding, and even health-related questionnaires. These integrations suggest a focus on improving the passenger experience through structured feedback collection.

Tealium

New

One of the applications analyzed was found to be using Tealium, a data orchestration platform that enables real-time customer data collection and management. While we were unable to determine its specific implementation, Tealium is commonly used for tag management, customer analytics, and personalization. Its presence suggests a focus on improving passenger insights, possibly through event tracking, user segmentation, or marketing automation.

Think Lumo

New

Think Lumo specializes in digital guest experience solutions, offering tools for interactive onboard engagement. One cruise line has been found to be exploring Think Lumo, though it is unclear whether this is for a full app integration or the use of a specific library.

If implemented, Think Lumo could enhance onboard digital interactions, potentially improving wayfinding, itinerary management, or guest communication.

Tourias

New

Tourias provides travel guides, maps, and digital content to enhance travel experiences. One of the

applications analyzed includes Tourias integration, specifically within the Phoenix Reisen app.

This suggests the app offers destination guides, e-books, or offline maps, likely to assist passengers with exploring ports of call and planning shore excursions.

Zendesk's Sunshine Conversations

One application is using Zendesk's Sunshine Conversations SDK. This module allows for the integration of a chatbot that can be overridden by a live operator using the Zendesk platform. This does require an active, stable internet connection to function, and is most likely being monitored by shoreside staff, rather than onboard crew.

Whatsapp API *New*

One of the applications analyzed includes integration with the WhatsApp API, enabling direct messaging capabilities within the app.

This could allow passengers to communicate with onboard services, receive real-time updates, or interact with customer support through WhatsApp, leveraging a familiar and widely used messaging platform.

Rating our Predictions from 2023

Much has changed since our last full analysis of onboard River Cruise apps. Below we summarize and score our predictions from our 2023 report.

New Entries

This prediction was spot on. We anticipated that more river cruise lines would begin launching passenger-facing mobile apps, and that's exactly what we observed. While the total number of apps we analyzed remains small, this year's report includes several new entries—Phoenix Reisen and Vodohod—that were not part of our previous analysis. Additionally, other River Cruise apps like 1AVista, Ponant, and Marella are available in app stores, though they didn't meet our inclusion criteria. Overall, the River Cruise app ecosystem is clearly expanding, validating our expectation that more operators would invest in digital guest experiences.

Score: 10/10

Shoreside Functionality

We predicted that digital check-in would be the first shoreside innovation to gain traction in River Cruise apps, and this year's data supports that trend. At least half of the apps we reviewed now include meaningful pre-cruise functionality, such as document uploading, guest manifest completion, and even early excursion selection. While full shoreside booking is still rare, these incremental improvements mark a clear shift toward more comprehensive guest experiences before embarkation. As a bonus, two apps also introduced post-cruise surveys, signaling continued expansion beyond the confines of the onboard experience.

Score: 8/10

Bug Tracking and Crash Detection

We predicted broader adoption of crash detection and bug tracking tools in River Cruise apps, and while we're seeing some progress, the pace has been slower than hoped. Our analysis found a modest uptick in the use of automated crash reporting and performance monitoring tools, but implementation is still inconsistent across the sector. Debugging in production remains a challenge due to limited shoreside test environments and the complexity of integrating with evolving onboard systems. While a few cruise lines are beginning to take a more proactive approach to app stability, most are still operating in a reactive mode—addressing guest-reported issues without the benefit of robust diagnostic tooling.

Score: 6/10

A More Predictable Maturity

This prediction proved largely accurate. While River Cruise apps once felt like individual experiments, this year we observed a clear move toward feature parity and standardization. Most apps now share a common baseline of core functionality—daily schedules, personal itineraries, reservations, and ship tracking—mirroring the evolution we previously saw in Ocean Cruise apps. There's noticeably less diversity in design and functionality compared to prior years, and the pace of innovation in River Cruise apps continues to lag behind their Ocean and Expedition counterparts. The space is maturing, just as predicted—steadily, and by following the trails already blazed.

Score: 9/10

Looking Ahead

The River Cruise app space continues to evolve, closing the gap with the more mature Ocean Cruise sector. As the underlying technologies improve and the development ecosystem becomes more accessible, we expect to see several trends shaping the next generation of passenger-facing tools.

Chatbots Will Start to Appear

Passenger-facing chat systems are becoming easier to implement, with tools like SendBird, Sunshine Conversations, and off-the-shelf AI assistants reducing the need for custom development. These systems are well-suited to handling repetitive or low-effort questions, like “What time is dinner?” or “Where is my room?”, and are a natural fit for river cruise lines looking to enhance service without increasing crew workload.

Personalization and Recommendations

Historically, app personalization required custom infrastructure and a large engineering team. That barrier has dropped significantly. With modern cloud platforms offering embedded recommendation engines, analytics-based predictions, and real-time user segmentation, it’s now feasible for development teams to introduce basic personalization—such as suggested excursions, highlighted activities, or targeted promotions based on guest behavior, itinerary, or preferences.

Ocean Features Will Continue to Trickle Down

As passenger expectations are shaped by experiences on larger ships, river cruise apps are beginning to adopt similar functionality. Features we expect to become more common include:

- Wishlisting or favoriting events in the ship’s daily schedule
- Guest-to-guest and guest-to-crew messaging
- Accessibility tools like font scaling, screen reader compatibility, and higher-contrast modes

These features are not difficult to implement and are likely to become standard as river apps continue to modernize.

Smarter Shorex and Dining Experiences

Shore excursion and dining modules are some of the most-used parts of cruise apps. These areas are ripe for AI-driven enhancements like:

- Surfacing relevant excursions based on past bookings or guest demographics
- Notifying guests about last-minute availability
- Customizing menus based on dietary preferences or previous selections

As these systems are relatively isolated from core cruise operations, they’re an ideal entry point for teams exploring AI-powered functionality.

Connectivity Will Improve, but Middleware Will Matter

With the rollout of Starlink and the increasing availability of shore-based cellular infrastructure, river cruise ships are enjoying better connectivity than ever before. However, technical constraints remain - most PMS systems in the river market are not designed for continuous online operation.

This means the real limiting factor for feature-rich apps isn't bandwidth, but data architecture. We expect to see more cruise lines adopt cloud-based middleware that sits between the app and shipboard systems. This layer can enable features like shore-excursion booking or dining reservations while a guest is off the ship, by queuing requests and syncing them to the onboard environment when connectivity is restored. Middleware will become the critical enabler of "always-available" functionality.

Security and Privacy Practices Will Advance

As apps store more sensitive data and begin to offer personalized functionality, we expect security practices to tighten. Broader adoption of tools like OneTrust for privacy preferences, SQLCipher for encrypted data at rest, and modern CI/CD pipelines will reduce exposure to accidental leaks and improve confidence in these platforms across both guest and crew use cases.

Conclusion

The 2025 River Cruises App Report shows an industry that is steadily maturing. The inconsistency and experimentation we saw in earlier reports is starting to fade, replaced by more predictable improvements and a clearer sense of direction. Features are becoming standardized, guest expectations are rising, and the technical execution behind these apps is getting stronger.

The basics are largely in place now. Every app we looked at offers a digital daily program and personal schedule. Most support reservations. Push notifications are becoming more common. On the backend, we're starting to see better tooling in place, with crash reporting and performance monitoring showing up in more apps. Security has also improved, with more thoughtful use of ProGuard, some encrypted local storage, and a handful of apps implementing SQLCipher.

But progress is still cautious. None of the apps in this report made a major leap forward. Most of the improvements are focused on optimizing what already exists: smaller downloads using Split APKs, smoother UI using tools like Glide and Lottie, and incremental integrations like weather data, PDF viewers, and messaging services. These are solid improvements, but they're not game-changers.

What's more interesting is what's starting to show up under the hood. AI libraries like TensorFlow and messaging platforms like SendBird are now embedded in some apps. Chatbots, basic recommendations, and smarter workflows for things like dining and shore excursions aren't science fiction anymore—they're on deck, waiting for teams to start using them. At the same time, we're seeing more cruise lines adopt cloud-based middleware to work around the limitations of disconnected onboard PMS systems. That opens the door to features like booking excursions while ashore, or updating reservations from a device that isn't on the ship.

We also believe that there is a wave of small but meaningful improvements coming. Features like wishlisting, in-app chat, and accessibility support are low-effort additions that would make a noticeable difference. Better messaging around what an app can and can't do would help with guest satisfaction as well. These are all doable, and long overdue.

Two years ago, we said this space was still in its Wild West phase. That's no longer true. Things are settling. Patterns are emerging. Most of the work being done today is sensible and focused on making existing systems more stable, secure, and useful. But the tools are now in place for something more interesting. The question is who's going to make the next bold move. We'll be watching.

If you would like your app or a feature included in the next report, please contact us at **appreport@sourcetoad.com**.

