



Rijkswaterstaat  
*Ministerie van Infrastructuur en Milieu*

## PIANC RIS Guidelines 2011 Edition 3

RIS workshop CCNR

PIANC RIS working group  
Cas Willems



**PIANC** "Navigation, Ports, Waterways"  
Inland Waterways Commission



## Content

- Historical context
- PIANC RIS Working group
- RIS status 2010; technical report on the implementation Status
- RIS related definitions
- PIANC RIS guidelines 2011 - Edition 3



## Historical context

- European research projects of the European Commission initiated the RIS development
- 1999 PIANC Installed a RIS working Group
  - RIS Guidelines PIANC Edition 1 in 2002
  - RIS Guidelines PIANC Edition 2 in 2004
- Central Commission on Navigation on the Rhine (CCNR), UN ECE and Danube Commission formalized the RIS guidelines and RIS standards
- In October 2005, the EU RIS Framework Directive of the European Union (2005/44/EC) entered into force.
  - Applicable to all waterways of the EU of class IV or higher
  - Binding rules for authorities on the implementation of RIS
- River Information Services are in an implementation stage in North and South America, Europe and Asia



## PIANC RIS working Group 125

- Tasks/results:
  - Status report on the implementation and operation of River Information Services
  - Update of the PIANC RIS Guidelines 2004
  - Document on RIS definitions
  - Proposal for a RIS working group on the effects of maritime concepts as eNavigation, eMaritime and VTM on RIS
- RIS working group members from:
  - Austria, Belgium, China, Czech Republic, Finland, France, Germany, Hungary, Poland, Russia, Serbia, the Netherlands, USA,

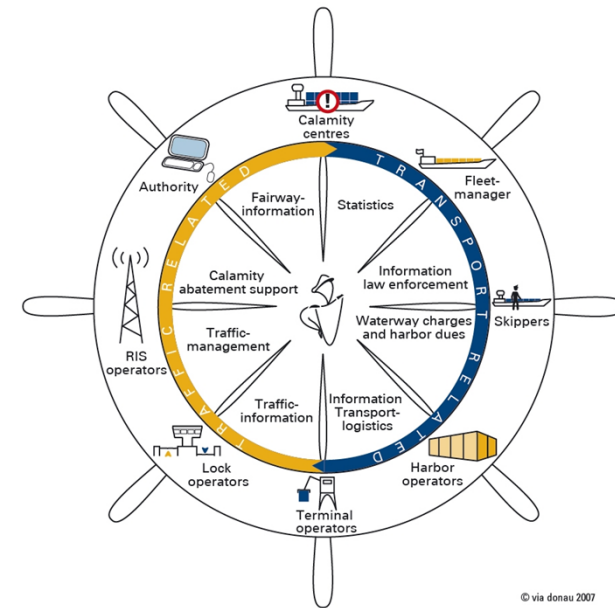


# **RIVER INFORMATION SERVICES 2010 TECHNICAL REPORT ON THE IMPLEMENTATION STATUS**



## Implementation status

- River Information Services = the concept for harmonised information services to support **traffic** and **transport** management in inland navigation, including interfaces to other transport modes
- Traffic management support services:
  - Fairway Information Services
  - Traffic Information Services
  - Vessel Traffic Services
  - Lock and Bridge management
  - Calamity abatement Services
- Transport management support services are still lacking behind





## Conclusions and recommendations 1

- Authorities are mainly responsible for the implementation of RIS services, users starting with the application of RIS, Industry developing new systems and applications require **stable standards**;



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- The development, implementation and operational use of RIS and the interoperability of RIS services and maritime information services will benefit from **developments in the Maritime environment** as there are in special the e-Navigation concept and in Europe the e-Maritime concept;





## Conclusions and recommendations 1

- Authorities are mainly responsible for the implementation of RIS services, users starting with the application of RIS, Industry developing new systems and applications require **stable standards**;
- The development, implementation and operational use of RIS and the interoperability of RIS services and maritime information services will benefit from **developments in the Maritime environment** as there are in special the e-Navigation concept and in Europe the e-Maritime concept;
- Information exchange in an international network requires **legislative measures** to provide the data on basis of a need to know principle, but also to protect privacy and prevent misuse of commercial sensitive information



## Conclusions and recommendations 2

- Traffic management - including Lock and bridge management - in a transport corridor requires an **integrated network-approach** where the information services to the users are an interactive part of voyage and traffic planning processes.



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## Conclusions and recommendations 2

- Traffic management - including Lock and bridge management - in a transport corridor requires an **integrated network-approach** where the information services to the users are an interactive part of voyage and traffic planning processes.
- **Traffic planning** is becoming more and more an essential and explicit part of RIS Traffic Management.
- Support to transport planning requires that the RIS authorities are willing and authorised to provide information on vessels, their positions, their voyages and cargo to third parties. There are **legal obstructions**, mainly driven by privacy regulations, on the provision of these services. This hampers the use of RIS information for logistic services and consequently it hampers the development of related transport services;



## Conclusions and recommendations 3

- In Europe, the **RIS Directive** should cover for Europe the **complete network of navigable fairways** with respect to the publication of NtS and network reference information – RIS Index – as this is essential for the visualisation of the NtS information in Inland ECDIS and implementation of voyage planning applications;



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- Good coverage, free availability to fairway users and software companies, easy accessibility and regular updates of **Inland ENC's** are essential as this contributes to safety and efficiency of navigation on the inland waterway network and is essential for the acceptance of the user;



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- Good coverage, free availability to fairway users and software companies, easy accessibility and regular updates of **Inland ENC's** are essential as this contributes to safety and efficiency of navigation on the inland waterway network and is essential for the acceptance of the user;
- As inland navigation is an international transport mode, the users – and providers of services and applications – would benefit from one single information entrance to get the fairway information used during international voyages. The implementation of a **(virtual) central FIS portal** for the complete waterway network is very beneficial for users and industry;



## Conclusions and recommendations 4

- **Electronic reporting** supports safety and calamity abatement services and as such electronic reporting should be made **mandatory** in a stepwise approach;





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- In many RIS related processes the implementation and use of Inland AIS on board as well as on shore is a pre-condition. The full scale benefit of Inland AIS for RIS services requires a **carriage requirement for Inland AIS**;
- The basic reference table on location codes, the so called **RIS Index**, is the consistent and unambiguous basis for many RIS services. It is highly recommended to start a procedure to formalize the RIS index as the mandatory electronic format for geo-related objects.



# **RIS RELATED DEFINITIONS**



## RIS related definitions

- PIANC document on RIS definitions and abbreviations
- Sources:
  - RIS standards – RIS expert groups
  - IALA, IMO, ISO, WCO, EU, CCNR
  - Still redundancy in definitions of terms!
- Publication on CCNR internet site,
  - maintenance joint action of CCNR and PIANC
  - Living document – Use and update the report by all concerned



# GUIDELINES AND RECOMMENDATIONS FOR RIVER INFORMATION SERVICES EDITION 3





## Why updating the Guidelines ?

- Edition 2 based on research
- Edition 3 based on the experiences gained and lessons learned in the RIS implementation processes since 2004.
- Detailed description of RIS stakeholders
- Amended RIS services
  - Extension of Traffic Management towards Traffic Planning
  - RIS Fairway Information Services more focused
- RIS key technologies developed and formalised
  - Standards included
  - Technological developments included
  - Reference data, RIS index, Hull data were missing
- Relation between RIS key technologies and the RIS services are highlighted
- Support to implementation of RIS in a structured approach.
- Omissions and corrections



## Status of Edition 3

- Guidelines will be published in last quarter 2011
- CCNR
- Danube Commission
- Sava Sommission
- UNECE
- European Commission
- USACE



# RIS Services

## Edition 2

Table 4.5 RIVER INFORMATION SERVICES

*Mainly traffic related*

- 1 Fairway information service (FIS)**
  - a) Visual aids to navigation
  - b) Radiotelephone service on inland waterways
  - c) Internet service
  - d) Electronic navigational chart service
- 2 Traffic information (TI)**
  - a) Tactical traffic information (TTI)
  - b) Strategic traffic information (STI)
- 3 Traffic management (TM)**
  - a) Local traffic management (vessel traffic services - VTS)
  - b) Navigational support (NS)
  - c) Lock and bridge management (LBM)
- 4 Calamity abatement support (CAS)**

*Mainly transport related*

- 5 Information for transport logistics (ITL)**
  - a) Voyage planning (VP)
  - b) Transport management (TPM)
  - c) Inter-modal port and terminal management (PTM)
  - d) Cargo and fleet management (CFM)
- 6 Information for law enforcement (ILE)**
- 7 Statistics (ST)**
- 8 Waterway charges and harbour dues (CHD)**

## Edition 3

Table 3.3 RIVER INFORMATION SERVICES

*Mainly traffic related*

- 1 Fairway information Services (FIS)**
- 2 Traffic information (TI)**
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  - a) Local traffic management ( VTS)
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  - c) Traffic Planning TP
- 4 Calamity abatement support (CAS)**

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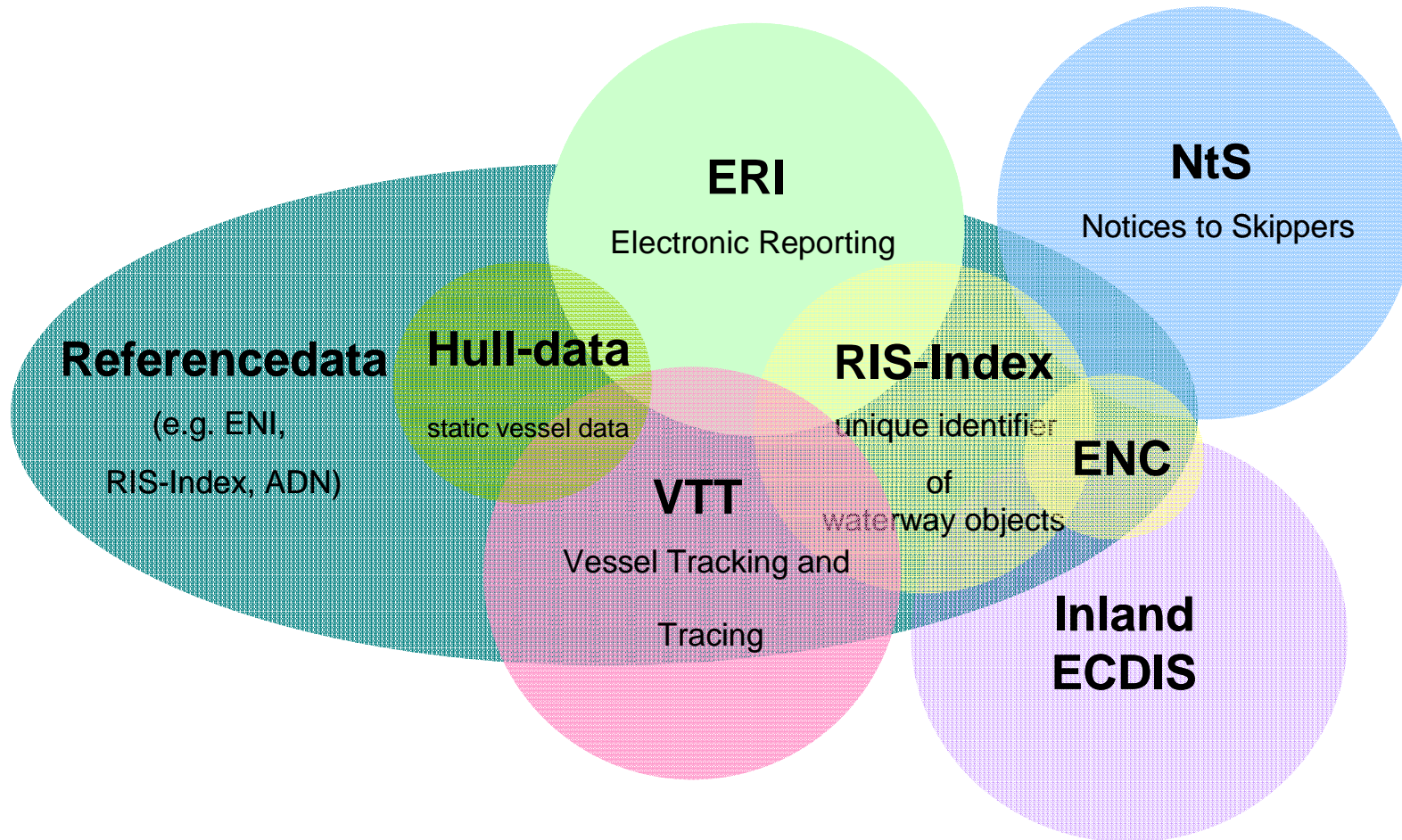


## RIS Key technologies

- The RIS Key Technologies have a central position in the services to be provided in the RIS arena and are depicted in detail;
  - Inland ECDIS
  - Electronic Reporting
  - Vessel Tracking and Tracing (Inland AIS)
  - Notice to Skippers
- RIS references data, Hull data and RIS index are in addition key elements in the RIS standards and are an important link between the various RIS-services.
- Radar, VHF included as related technologies
- Open standards
- Internet, GSM, GNSS, Aids to Navigation deleted as RIS technologies

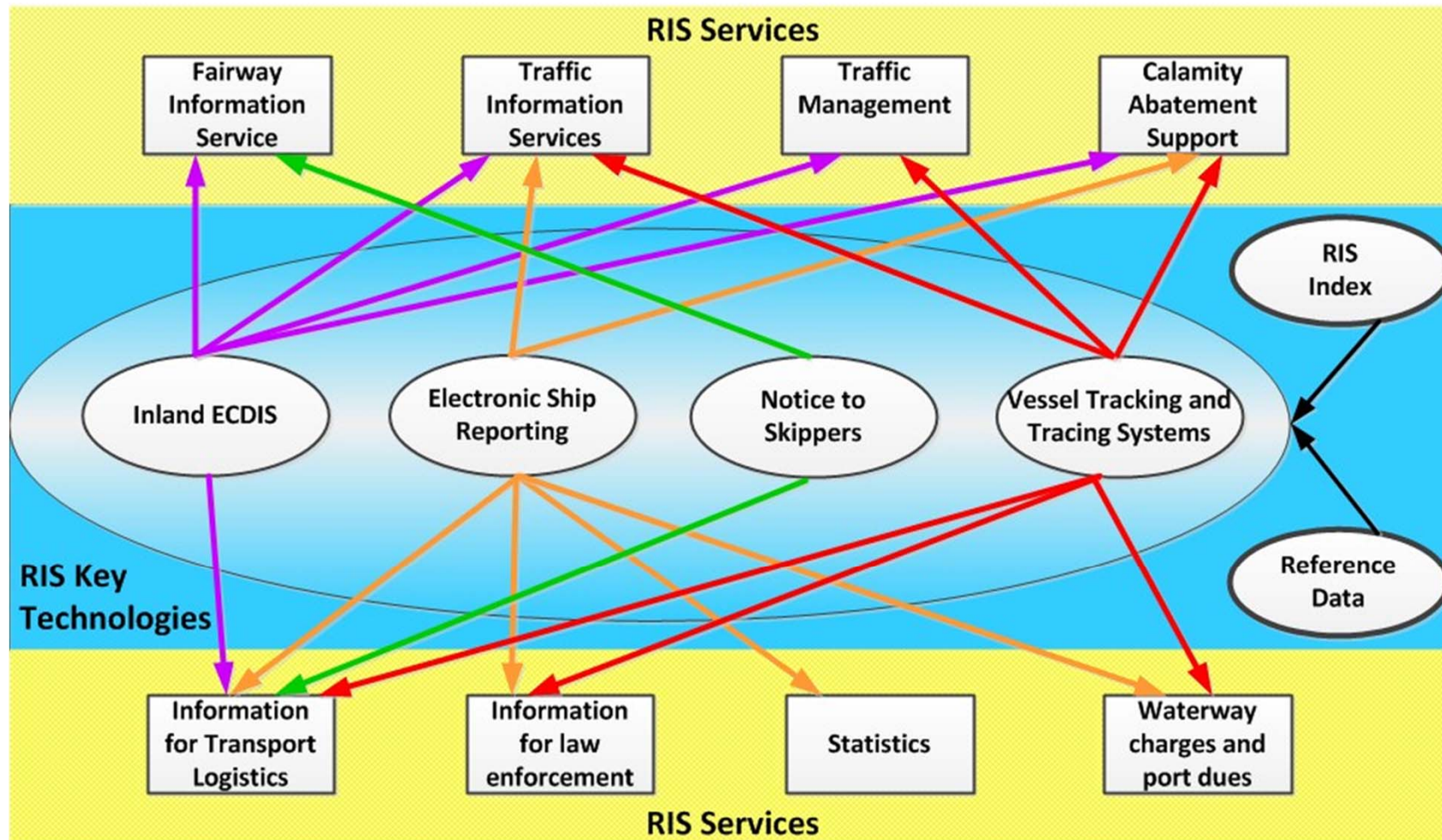


## RIS key technologies and reference data





# RIS Key technologies and RIS Services





# Information categories

Information category		Information detail	Basic Services			Services				Ref. Data			
1st level	2nd level		Fairway Information Services	Traffic Information (STI & TTI)	Traffic Management	Calamity Abatement Support	Information for Transport Logistics	Information for Law Enforcement	Statistics (1)	Waterway charges and harbour dues	RIS-index	Hull Data	Other
Infrastructure related	Waterway related information	Provide basic routing data	x	x	x		x		x	x	x		
		Provide navigation-based information on fairway and/or navigable water area (incl. harbours)	x	x	x	x	x				x		
		Provide meteorological information	x	x	x	x	x				x		x
		Provide water level related information	x	x	x	x	x				x		x
		Provide information on obstructions and limitations	x	x	x	x	x				x		x
		Provide information on navigation rules and regulations	x	x	x	x	x			x			x
	Land related information	Provide information on land region	x	x	x						x		
		Provide information on harbors	x	x	x					x	x		
		Provide information on terminals	x	x	x	x	x				x		
		Provide information on locks	x	x	x	x	x				x		
		Provide information on bridges	x	x	x	x	x				x		
Vessel related	Dynamic vessel data	Provide actual position information of vessels		x	x		x	x	x	x		x	x
		Provide actual vessel dynamics (i.e. RoT, velocity, CoG, SoG, ...)		x	x				x				
		Provide historic position information of vessels							x	x		x	
		Provide historic vessel dynamics							x				
	Hull related information	Provide event based triggers for vessel position			x				x			x	
		Provide data for the identification of vessels (min. hull data set)			x		x	x	x	x		x	x
		Provide craft certificates						x			x	x	
Voyage related	Location related information	Provide origin of voyage		x	x		x		x	x	x		
		Provide intermediate discharge locations					x	x	x	x	x		
		Provide passage points		x	x		x	x	x	x	x		
		Provide destination of voyage		x			x		x	x	x		
		Provide estimated date/ time of arrivals		x	x		x	x			x		
		Provide requested date/time of arrivals		x	x		x				x		
		Provide date/time of actual arrivals		x	x		x		x		x		
		Provide estimated date/ time of departures		x	x		x	x			x		
		Provide date/time of actual departures		x	x		x		x		x		
		Provide date/time of requested departures		x	x		x				x		
	Vessel/convoy related information	Provide overall convoy data		x	x		x	x	x	x		x	x
	Cargo related information	Provide origin of cargo					x	x	x		x		x
		Provide destination of cargo							x		x		x
		Provide cargo details		x	x		x	x	x	x	x		x
		Provide loading unit related information					x	x	x	x			x
	Persons on board related information	Provide number of persons (crew, passengers, ...) on board							x				
		Provide details on persons on board					x			x			



# Replacing

**Table 4.6. Functional decomposition of River Information Services**

No.	RIS service RIS sub-service RIS function	Information level	User							
			Ship master	VTS operator	Lock/bridge operator	Waterways authority	Terminal operator	Calamity Centre	Fleet manager	Cargo shipper
<b>FIS</b>	<b>Fairway information service</b>									
	<b>Provision of information on:</b>									
FIS.1	Geography of the navigation area and their updates	FIS	X	X	X	X		X	X	X
FIS.2	Navigation aids and traffic signs	FIS	X	X	X	X		X		
FIS.3	Water depths contours in the navigation channel	FIS	X	X	X	X	X	X		X
FIS.4	Long time obstructions in the fairway	FIS	X	X	X	X		X	X	X
FIS.5	Actual meteorological information	FIS	X	X		X		X		
FIS.6	Temporary obstructions in the fairway	FIS	X	X		X		X		X
FIS.7	Present and future water levels at gauges	FIS	X	X		X		X	X	X
FIS.8	State of the rivers, canals, locks and bridges in the RIS area	FIS	X	X	X	X		X		X
FIS.9	Restrictions caused by flood and ice	FIS	X	X	X	X		X	X	X
FIS.10	Malfunctions of aids to navigation	FIS	X	X		X				
FIS.11	Short term changes of lock and bridge operating times	FIS	X	X	X	X				X
FIS.12	Short term changes of aids to navigation	FIS	X	X		X				
FIS.13	Regular lock and bridge operating times	FIS	X	X	X	X		X	X	X
FIS.14	Physical limitations on waterways, bridges and locks	FIS	X	X	X	X		X	X	X



## Chapter on implementation support

Edition 3: Chapter on structured approach of the implementation of RIS services

- Mission Statement
- Steps of a structured approach for the implementation of RIS
- Legal considerations
- Training

Replacing edition 2: Chapter on planning of a RIS

- Responsibility
- Liability
- Planning proces
- Training
- Stepwise development of RIS



## RIS layered implementation model

8. CHD – waterway Charges and Harbour Dues

7. ST – Statistics

6. ILE – Information for Law Enforcement

5. ITL – Information for Transport Logistics

4. CAS – Calamity Abatement Support

3. TM – Traffic Management

2. TI – Traffic Information

1. FIS – Fairway Information Service





Questions  
?  
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