



The New DNSSEC Deployment Maps and DNSSEC Views

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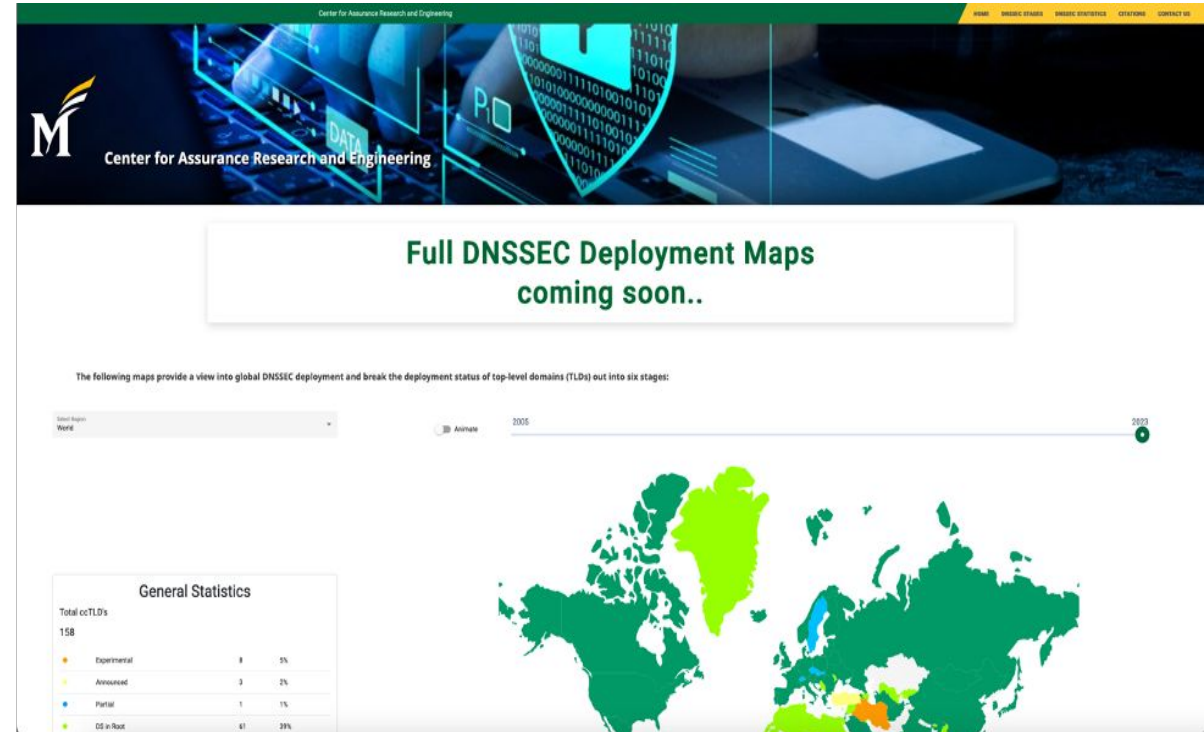
Evolving and Enhancing the DNSSEC Deployment Maps

- Long valuable history
 - Originally developed by Shinkuro, Inc.
 - Previously maintained by Internet Society (ISOC).
 - Now live at Center for Assurance Research and Engineering (CARE) at George Mason University.



Evolving and Enhancing the DNSSEC Deployment Maps

- Exploring historical dataset and evolving the service
 - Maps uniquely provide novel visualization about DNSSEC's history.
 - Their future will include new datasets and extended analyses.



<https://maps.dnssec.gmu.edu/>

Improvements

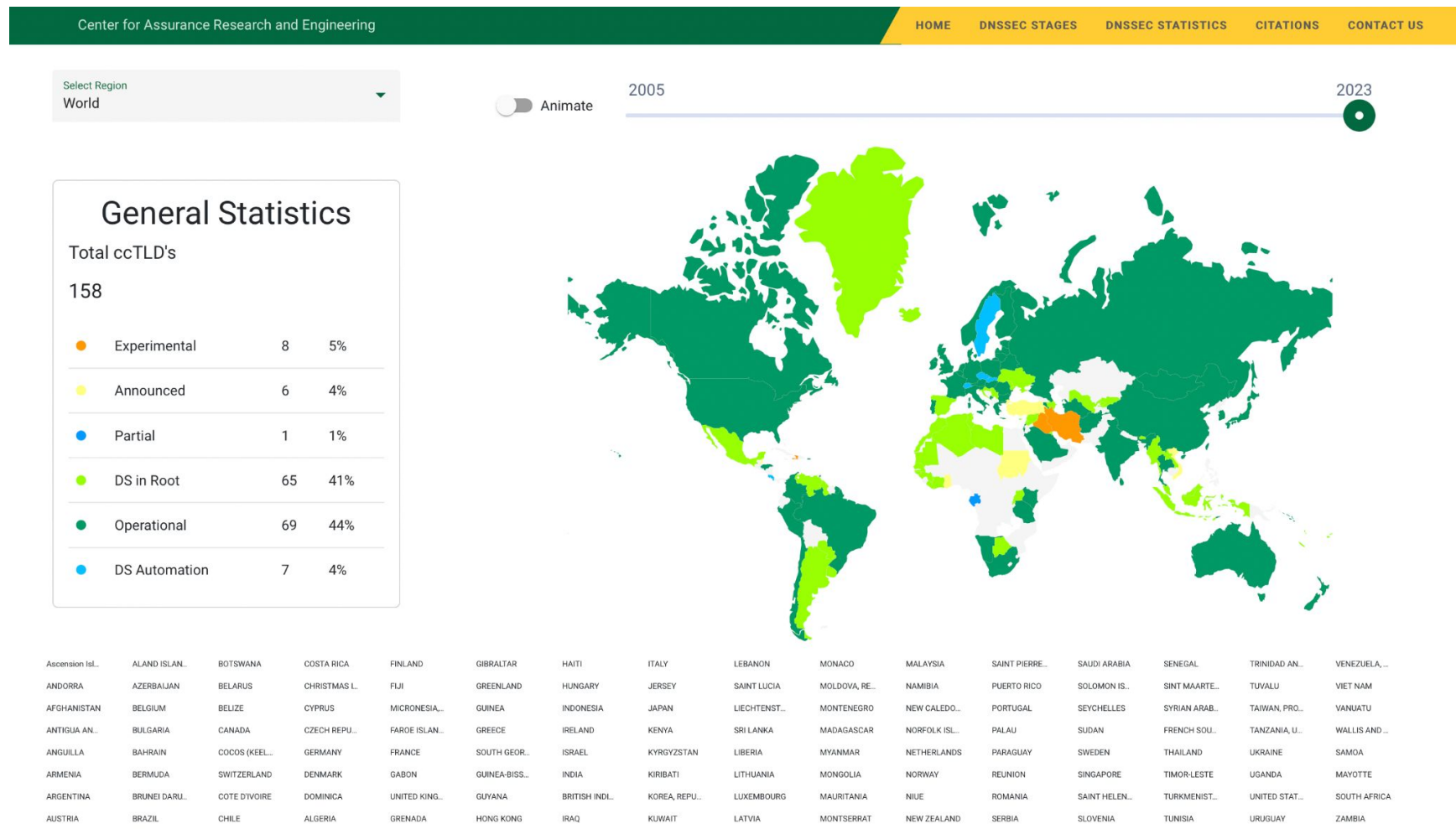
- Live maps made interactive: beginning from 2005 for all available regions.
- Can visualize how maps has changed over period of time with a click of a button.
- Provision to show if a ccTLD gets unsigned or goes back in stage.
- Enriched the data being displayed on the maps.
 - Unverified predictions after the predicted date is passed are exempted from displaying on the maps.
- Changed weekly email updates to monthly (1st of every month).

Improvements

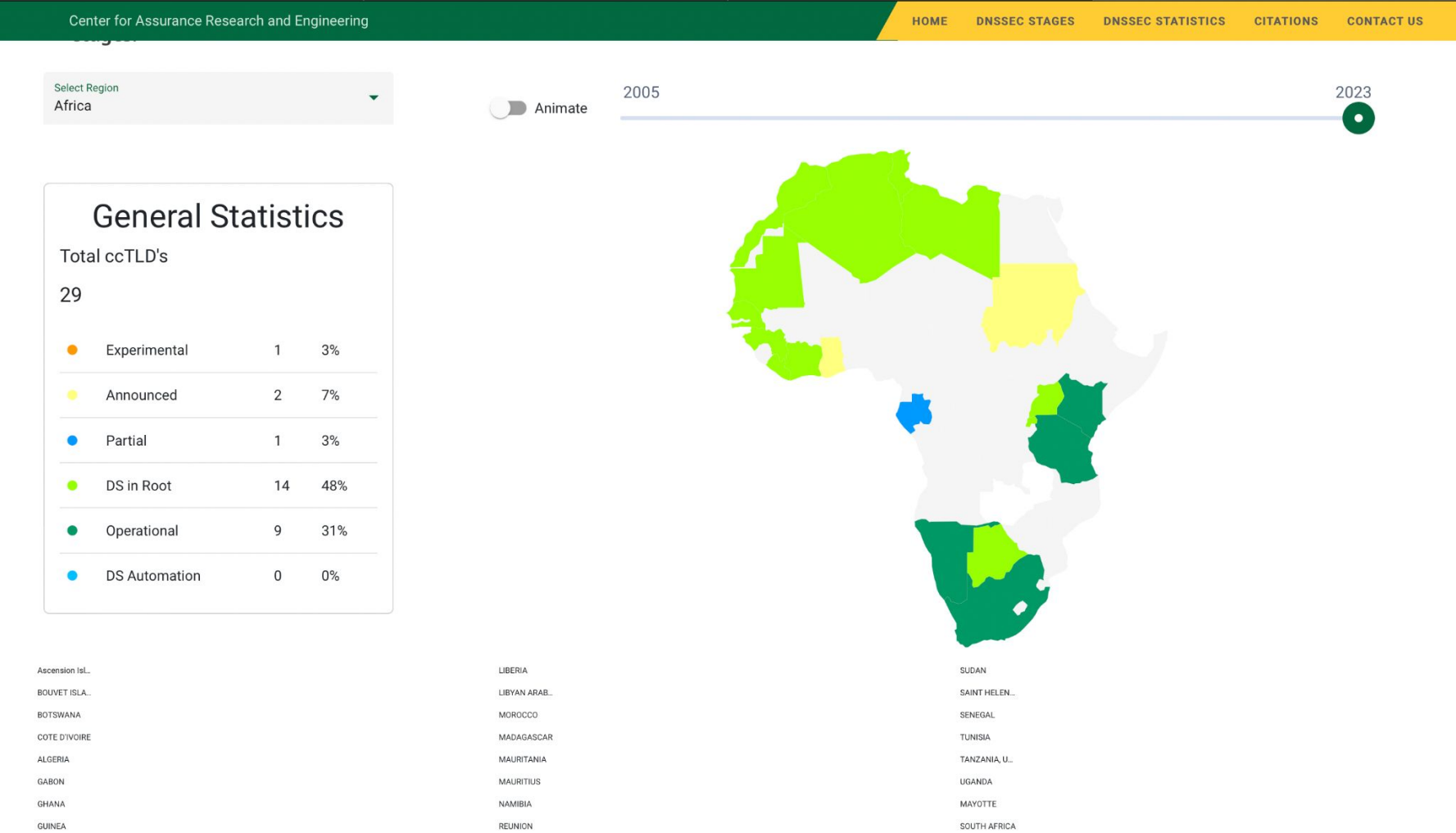
- **Experimental** - Internal experimentation announced or observed.
- **Announced** - Public commitment to deploy.
- **Partial** - The zone is partly in operation, usually with a signed apex, but without DS records in the root zone.
- **DS in Root** - The zone is signed and has DS record(s) in the root zone.
- **Operational** - The zone is signed, has DS record(s) in the root zone, and accepts DS records for signed delegations. Before 2010 (when the root zone enabled DNSSEC), this state indicated just that zones were accepting DS records from delegated DNSSEC.
- **DS Automation** - Automation of updates of DNSSEC keys.

Current Look

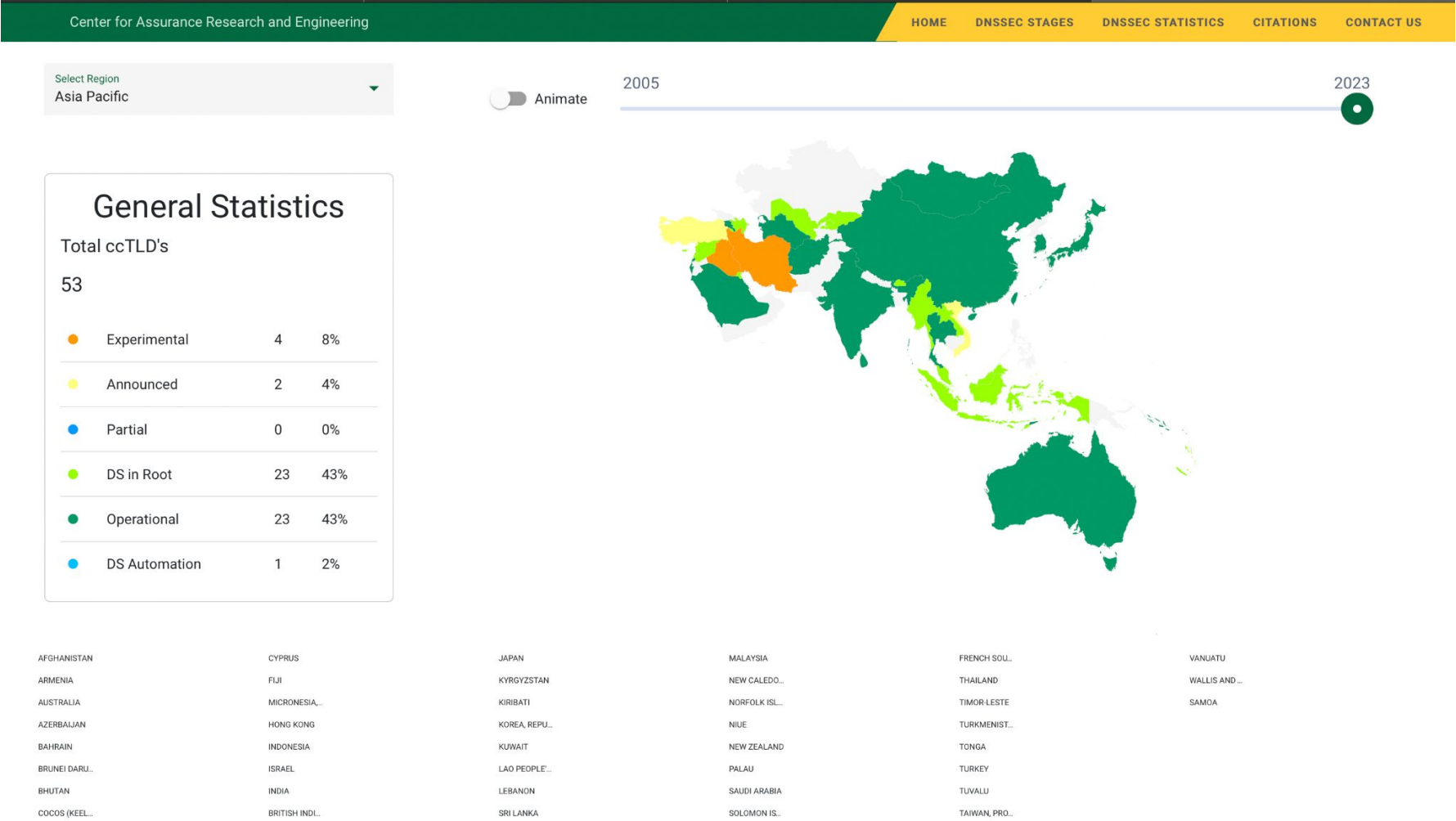
- Current DNSSEC Deployment maps can be found at <https://maps.dnssec.gmu.edu/>



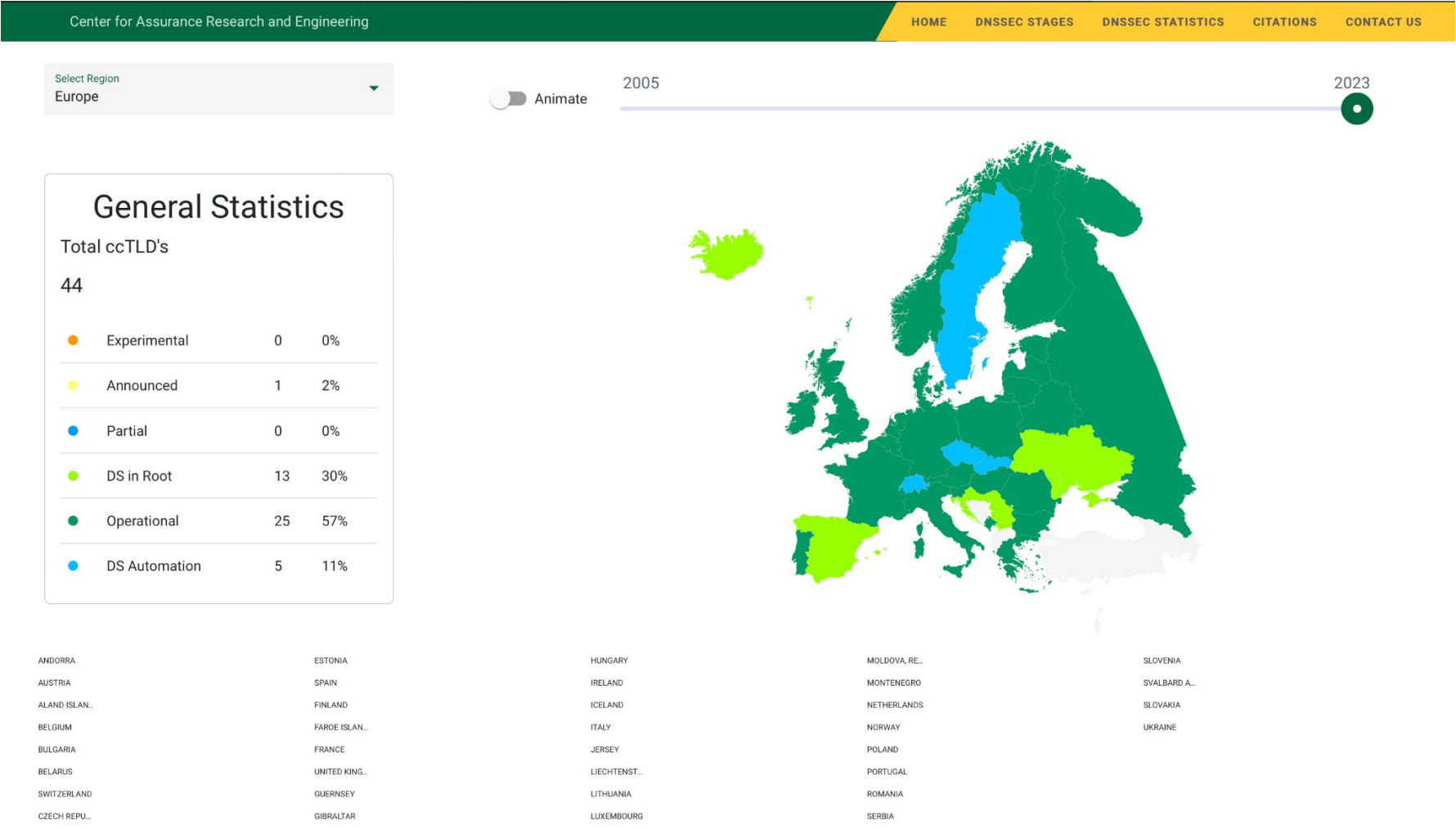
Current Look



Current Look



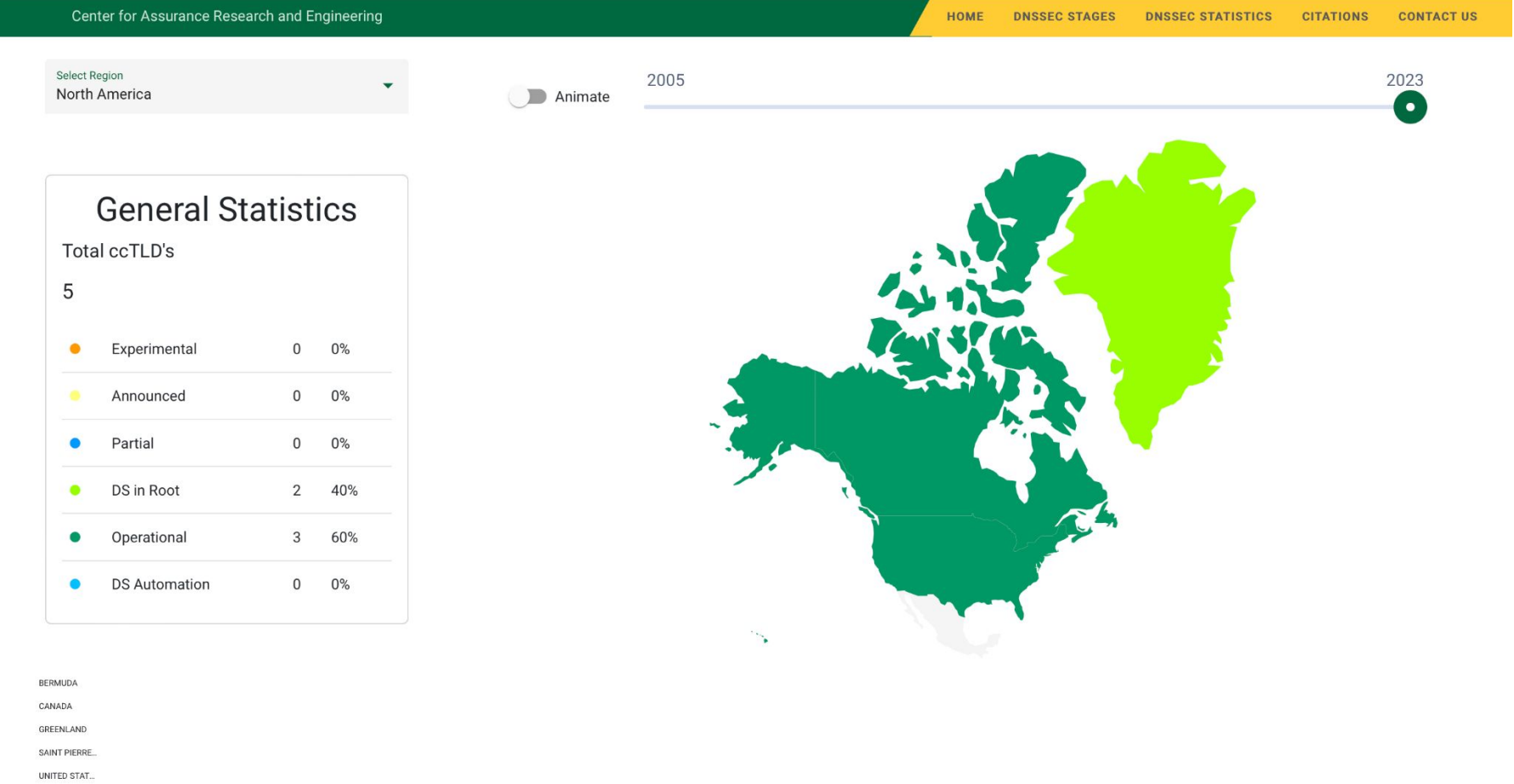
Current Look



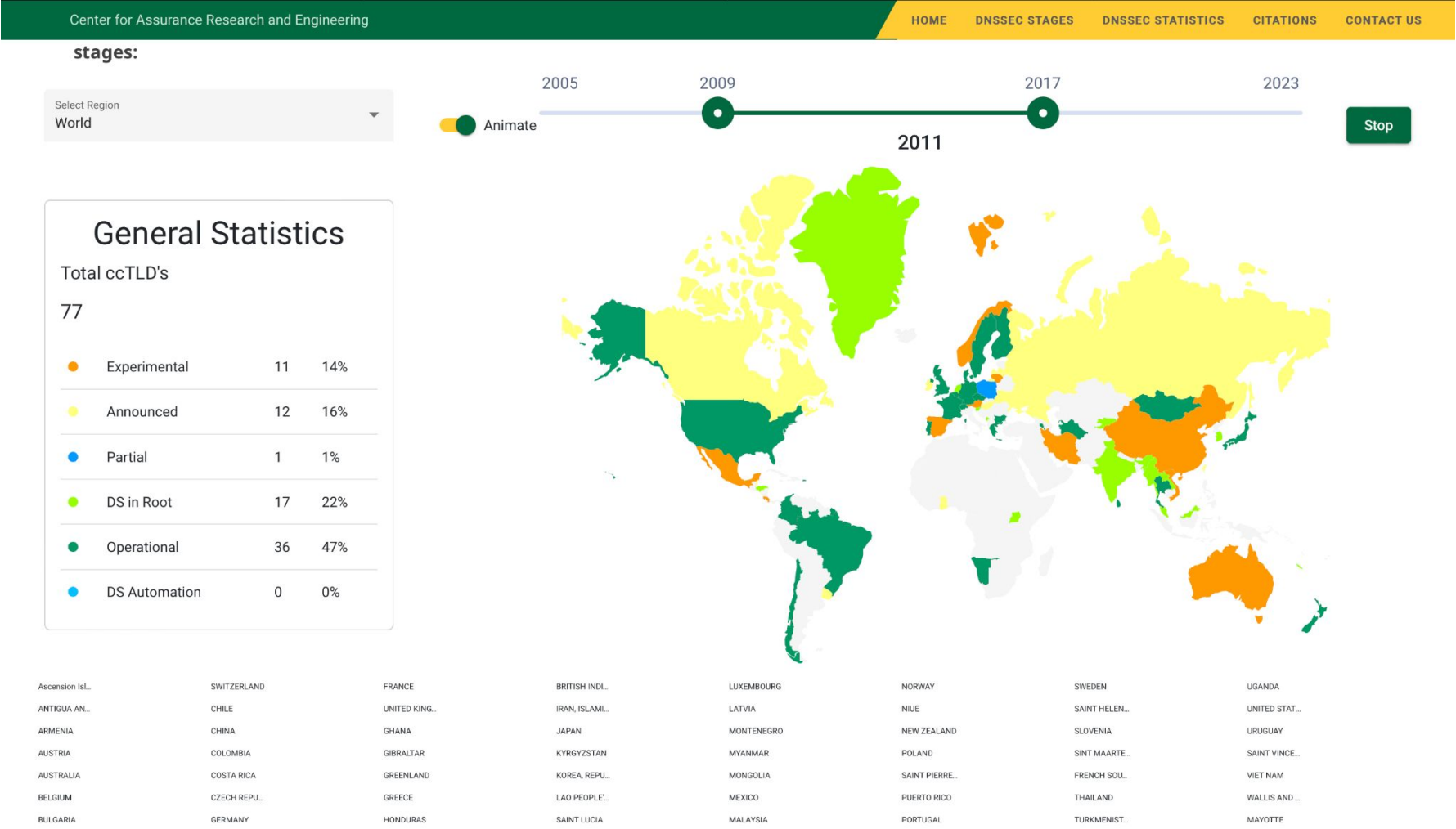
Current Look



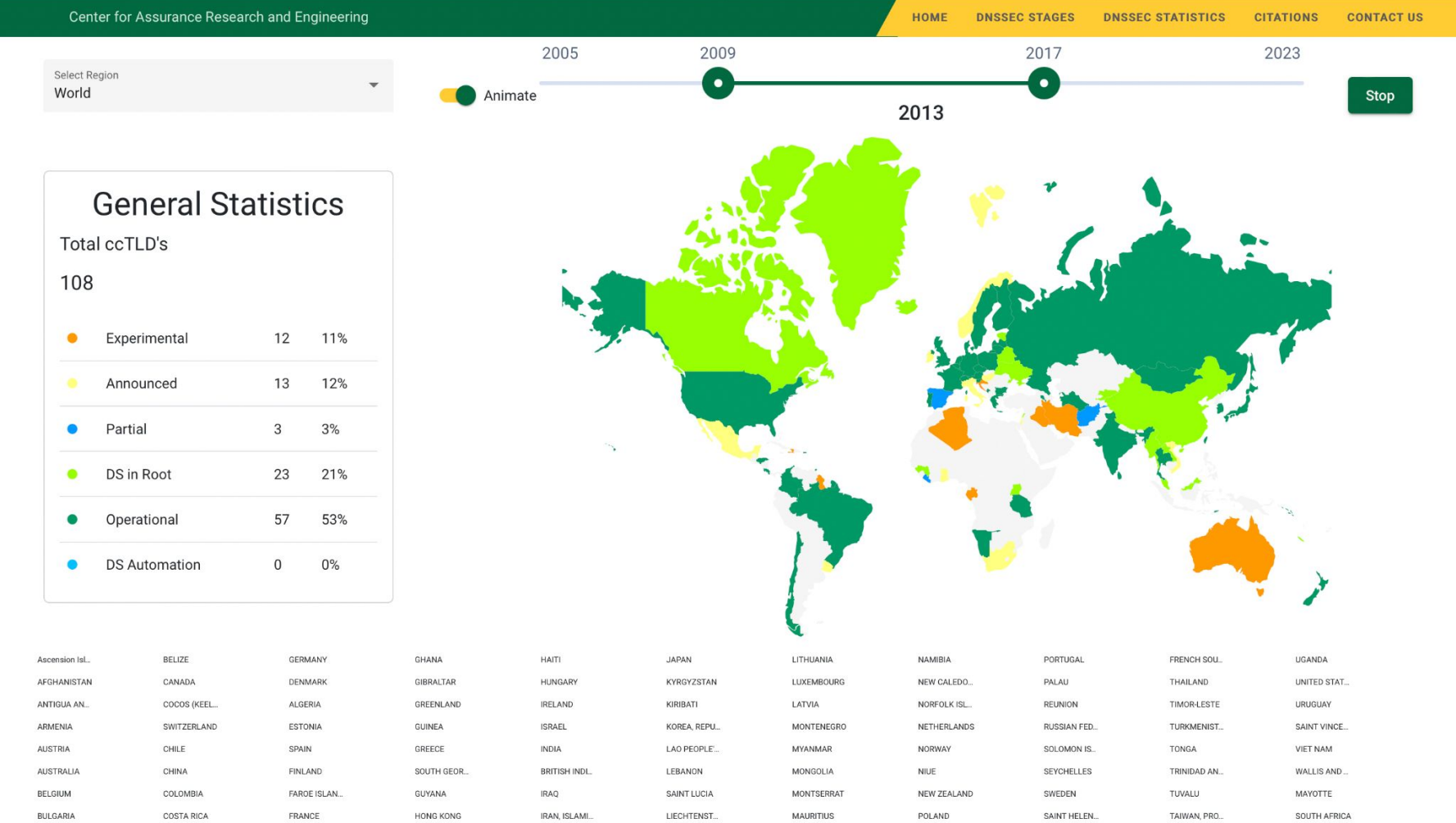
Current Look



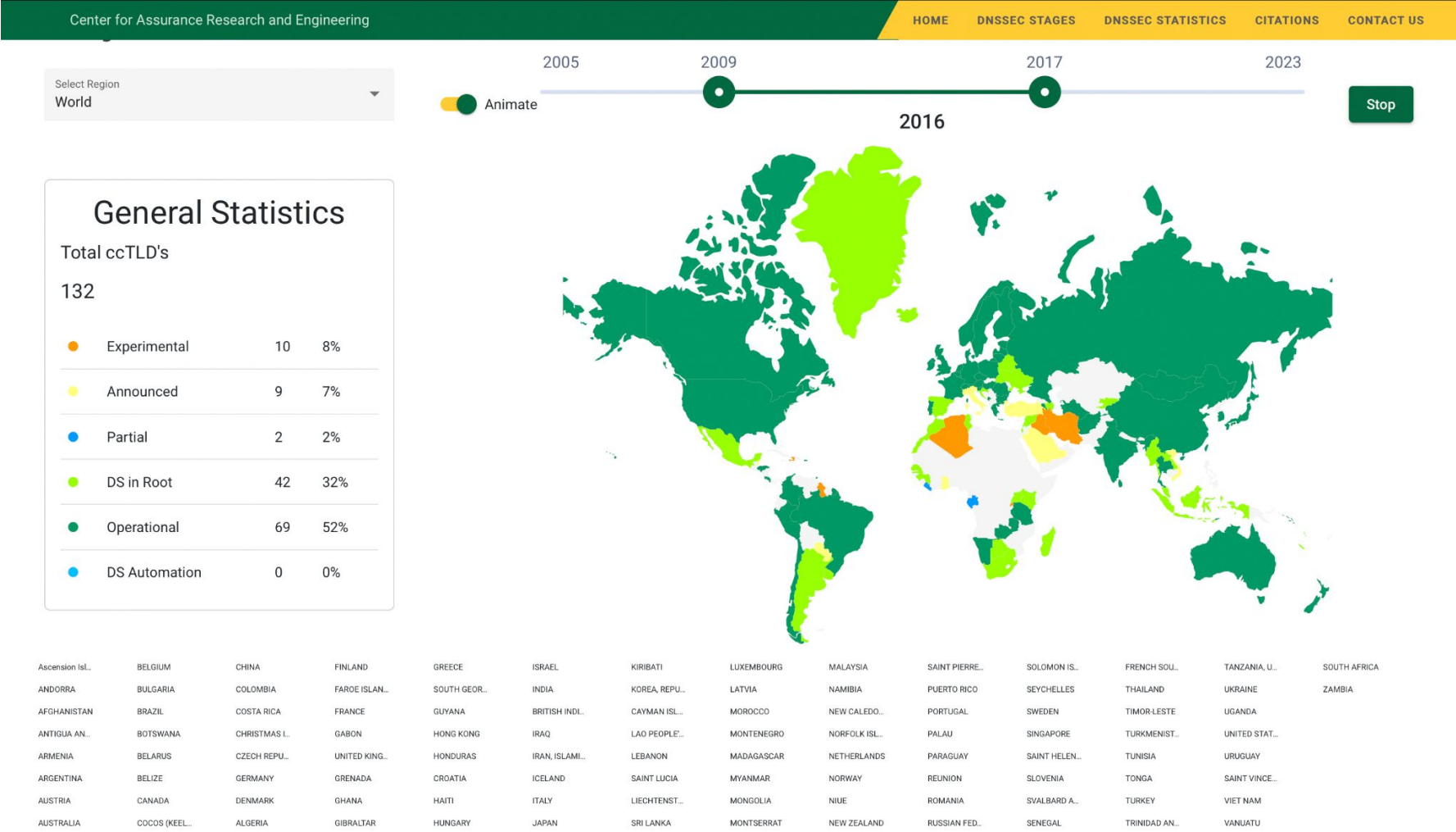
Current Look



Current Look



Current Look



Ongoing Improvements

- Reached out to all ccTLD administrators over email for latest updates.
 - Actively updating database with latest information.
- Automate the detection of operational status using SecSpider.
- Fill the gaps in the database (if any) using the SecSpider data.
- Display more information and statistics for each ccTLD.
- Improving monthly emails to include brief explanation on what has changed from the previous roll out of email.
- Augmenting with resolver-side visualization from DNSSEC Views.
- Revamping dnssecviews web service to provide better functionality.

THANK YOU!

REACH OUT TO ME FOR QUESTIONS
OR FOR FOLLOW UP!

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