



Agrirouter's online service shares different data types between machinery, the farm office and third parties. Starting from scratch, seven steps can generate and send a seed application rate map to a compatible ISObus terminal, ready for use.

Information exchange:

Seven steps to data heaven?

Navigating the potentially choppy waters of data transfer puts off a lot of farmers. But it need not involve a packet of Quells: here we see how to set up an account with Agrirouter, create a seed rate map using My Data Plant and transfer the map to a drill

So...what's Agrirouter? It's an independent hub for sharing data between machines and between software. Funded initially by makers of machinery and data-based systems and compatible with most major equipment brands, its service is free to end-users. Security and privacy look to be good: Agrirouter says its system takes only

information selected by the user, then transfers it solely between the locations specified by the user. No data is permanently retained.

How can you use it? One way is creating maps for targeted application of fertiliser, seed or spray and sharing them with your operator, contractor and agronomist. The following steps show how to produce a seed rate map

for a Grimme Matrix beet drill and send it to a CCI 1200 ISObus terminal, using Agrirouter and the 'My Data Plant' portal: the latter brings satellite imaging for biomass and soil analysis which, along with input from the farmer, generates application maps for seed, fertiliser and spraying. Why the CCI 1200? It can send and receive data via Wi-Fi or USB stick, potentially speeding map transfer.

1. CREATE A FREE AGRIROUTER ACCOUNT

Nip over to 'my-agrirouter.com'. Choose 'Agrirouter' from the top menu, then 'Create Account'. Fill in the form and jot down the info you supplied, or just take a screenshot of the completed form. Don't bookmark the page as registration is a one-time process. Wait for a confirmation email - check the spam folder if nothing seems to turn up - and click the 'active' link in it. On the web page that opens and supply a secure password.

The screenshot shows a 'User registration' form with the following sections:

- Personal information:** First name (Example D), Last name (Washington).
- Contact information:** Email (example@domain.com), Phone number, Address (Cott Court Farm), Postal code (W16 7HL), City (Tulbury), Country (United Kingdom), Communication language (English).
- Company information:** Company name (CCI Farms Ltd), Company description.

Nothing can happen until you set up a free account with Agrirouter - it's a one-time thing.

2. LINK AGRIROUTER TO A ISOBUS TERMINAL

The screenshot shows the 'Control Center' interface for a terminal named 'Fendt 718 CCI 1200'. The terminal is active, indicated by a green 'ON' button. Below the terminal name, there are tabs for 'SEND TO', 'RECEIVE FROM', 'GROUPS', and 'ENDPOINT DETAILS'. The 'SEND TO' tab is selected, showing a table of recipients and information types.

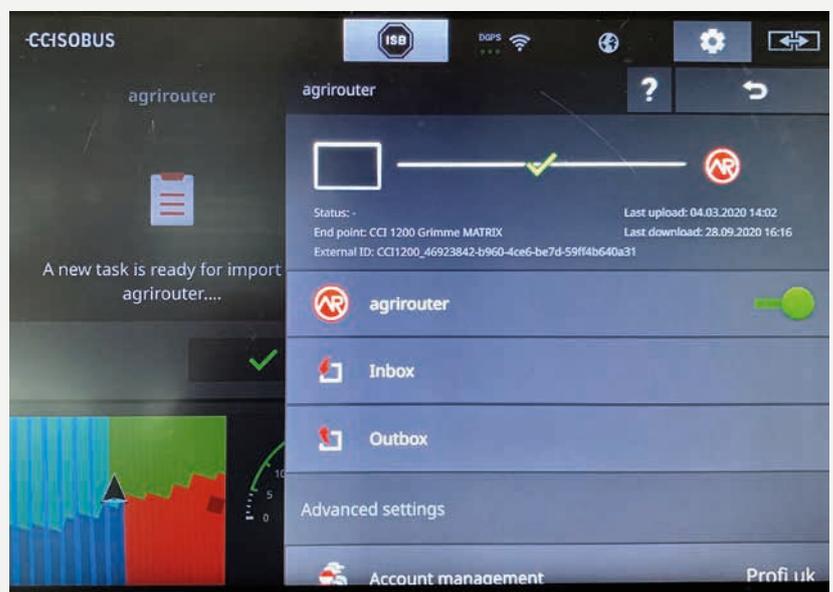
Recipient	Information Types	Telemetry Parameter Categories	Inherited from
<input type="radio"/> Agricultural Software Group	Telemetry, Video, Task Data, Shape, Image, Document	Environment Data, Guidance and Geo Data, Proprietary Data, GPS-Geo Position, Crop and Yield Data, Soil Data, Machine Data (only PGN Data), General Work Data, Machine Data, Basic Data, Application Data, Fuel and Exhaust Fluid Consumption Data, Process Data	Machine Group

You'll be taken automatically to your new account at 'goto.my-agrirouter.com/app'. Bookmark the page, click 'Control Centre' then '+ Telemetry-Connection'. In this example we're using a CCI 1200 terminal so chose that. Note or take a picture of the registration code generated: it's valid for two hours.

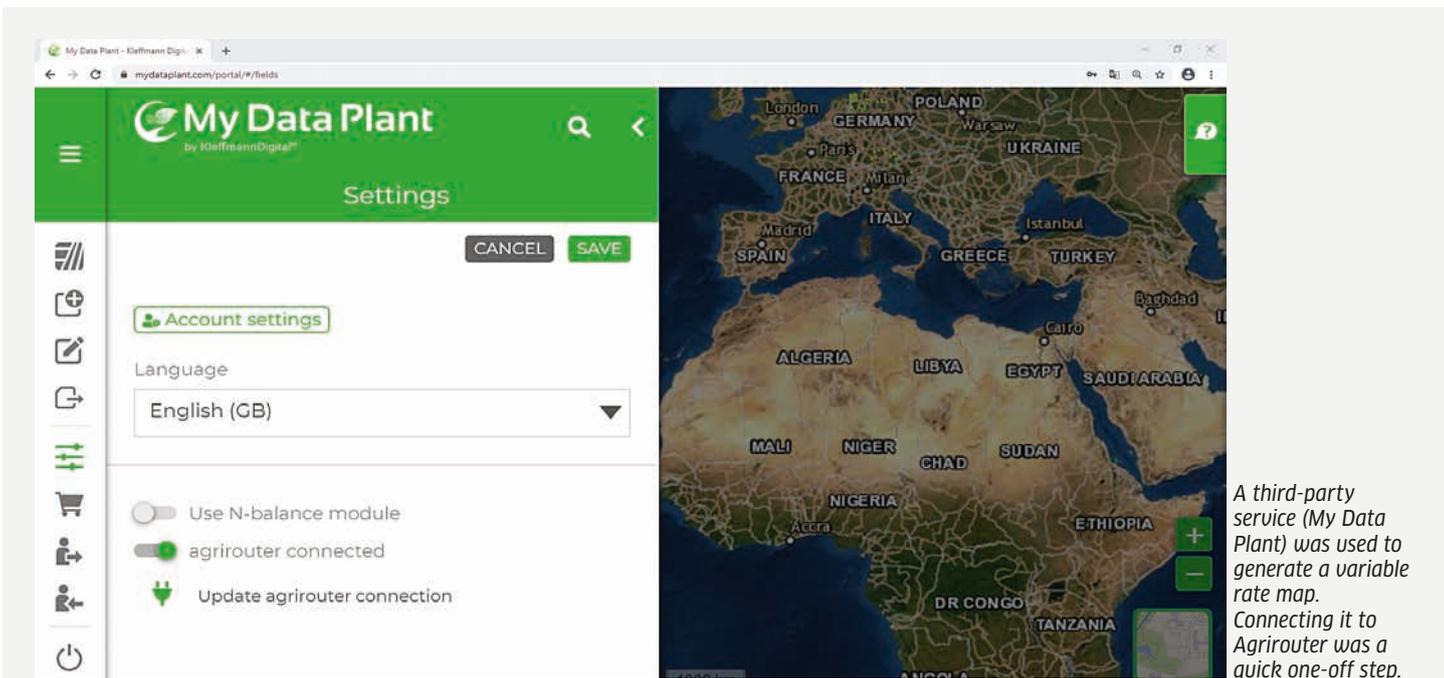
Agrirouter needs to know where to send data so you choose from a list. Multiple devices can be added to the list: good for larger farms and contractors

3. GO TO THE CCI 1200, ENTER REGISTRATION CODE

We're assuming the CCI 1200 has Wi-Fi capability, which can be added via an adapter if not. Fire up the CCI, select 'Settings' and enable wi-fi control. If no Wi-Fi network is found - likely if you're away from base - then use an Android or IOS smartphone to create a Wi-Fi hotspot. Select the Wi-Fi connection found by the CCI 1200. Once this is established go to the terminal's 'Settings', then 'System', screens and enter the registration code generated in Step 2. Activate the connection to establish two-way communication between Agrirouter's hub and the CCI 1200.



4 LINK A WEB-BASED SERVICE TO AGRIROUTER



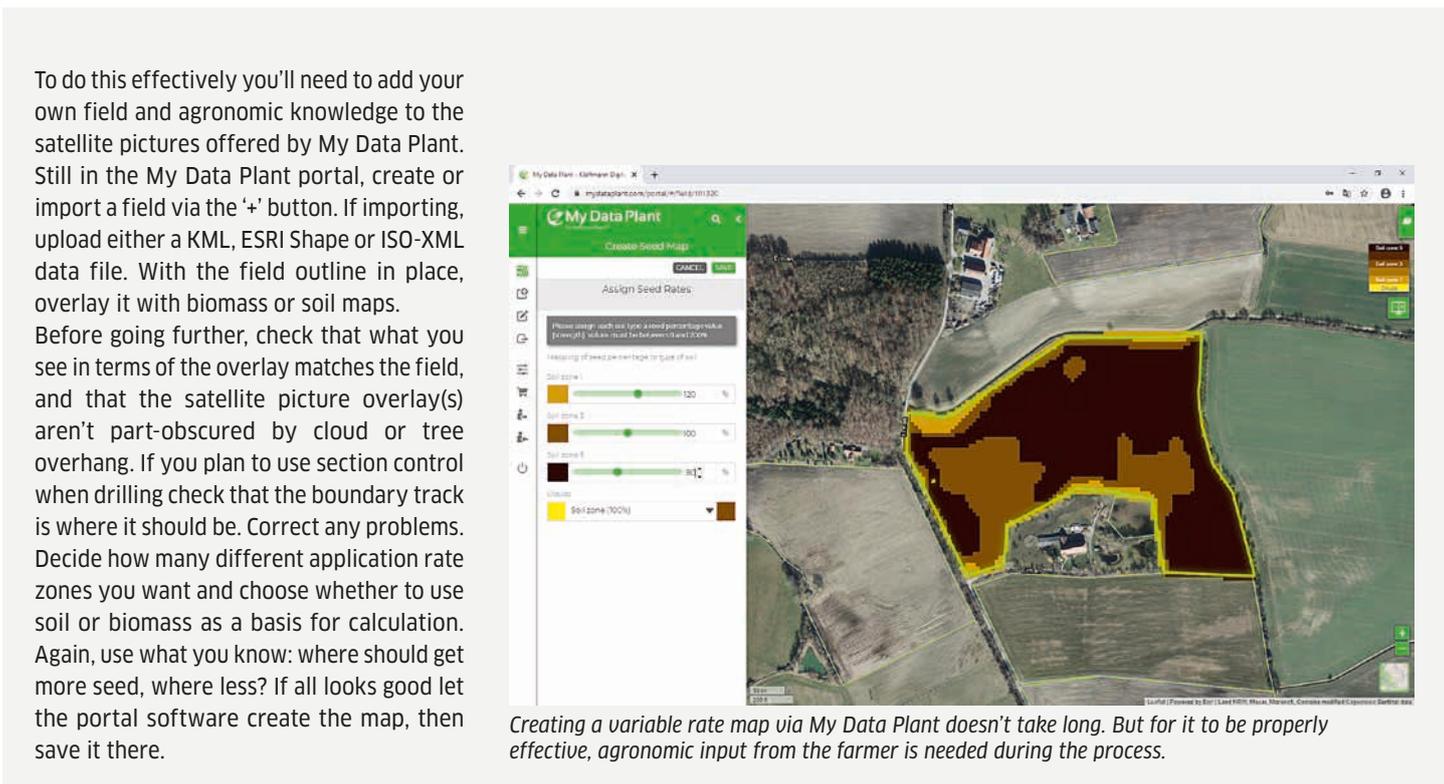
A third-party service (My Data Plant) was used to generate a variable rate map. Connecting it to Agrirouter was a quick one-off step.

Here we're using 'My Data Plant' to create application maps. Registration is free, then unlimited application maps, including biomass monitoring, cost €6/ha per year. To get started visit 'portal.mydataplant.com' and choose 'Register'. Fill in the

resulting form using the info you jotted down in Step 1 and confirm registration on the email that will turn up. Log in to your new account. Click the three horizontal bars at the top left of the screen and choose 'User Profile', then 'Agrirouter

connected'. On the page that opens, click 'Connect'; if successful you will see the cryptic message 'Agrirouter was successfully onboarded'. Now the CCI 1200 and My Data Plant can communicate via Agrirouter.

5 CREATE A SEED RATE MAP



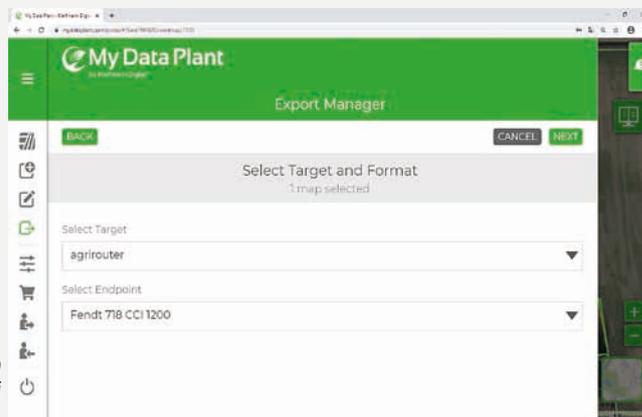
To do this effectively you'll need to add your own field and agronomic knowledge to the satellite pictures offered by My Data Plant. Still in the My Data Plant portal, create or import a field via the '+' button. If importing, upload either a KML, ESRI Shape or ISO-XML data file. With the field outline in place, overlay it with biomass or soil maps. Before going further, check that what you see in terms of the overlay matches the field, and that the satellite picture overlay(s) aren't part-obscured by cloud or tree overhang. If you plan to use section control when drilling check that the boundary track is where it should be. Correct any problems. Decide how many different application rate zones you want and choose whether to use soil or biomass as a basis for calculation. Again, use what you know: where should get more seed, where less? If all looks good let the portal software create the map, then save it there.

Creating a variable rate map via My Data Plant doesn't take long. But for it to be properly effective, agronomic input from the farmer is needed during the process.

6 EXPORT THE RATE MAP

Once your ISObus terminal has a Wi-Fi connection (via a phone hotspot if necessary), you can send the map directly to it. Open My Data Plant's Export Manager and choose any terminal that you have previously registered with Agrirouter - in this case, the CCI 1200 - but before clicking the 'Export' button, set the maximum (100%) seed rate to be used. The exported map will live on Agri router's servers for up to a month ready for collection by the terminal - see Step 7. If your unit doesn't have Wi-Fi capability, opt to export the map to a USB stick and take it to the machine for manual installation.

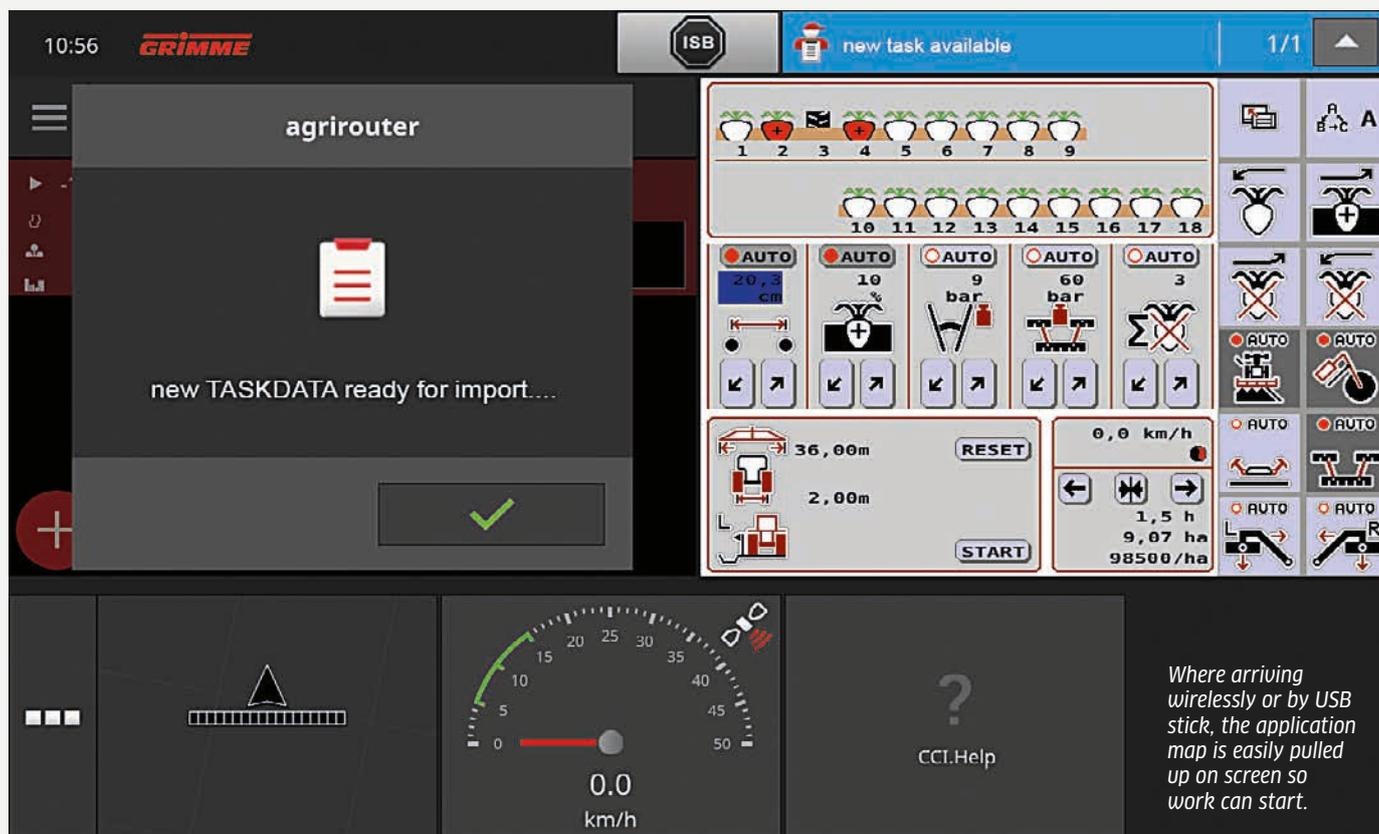
My Data Plant's 'Export' function sends the just-created application map either to Agrirouter or to a USB stick. Using Agrirouter means that a Wi-Fi enabled/connected ISObus terminal can immediately pull it in for use.



7 USE THE RATE MAP

Using Wi-Fi, connect the CCI 1200 to the internet. This should happen automatically. After up to five minutes an import window should open, offering the new map for download. If not, you can check

manually. With the map in the CCI 1200, double-check that all looks as expected and click 'Play' to start drilling. Once underway seed rate can still be adjusted on the move as a percentage of maximum.



Summary: Agrirouter's free service makes it simple to transfer a wide range of data types between equipment, the office or another web-based service. We used a pay-for online service (My Data Plant) to create a seed rate map, then

exported it wirelessly via Agrirouter to a CCI 1200 ISObus terminal. For units without mobile connectivity, transfer by USB stick is necessary. Starting the job from scratch needed only basic computer savvy - and once the basics are set

up, generating new maps will be fast and simple. But the input and judgement of someone who knows the farm will be needed for those maps to be effective.

Sönke Schulz, Andrew Pearce