# OPPORTUNITIES & VALUE PROPOSITIONS FOR PRIVATE SECTOR PARTNERSHIP

### **IRRI TECH TRANSFER**

As one of the world's premier research organizations, IRRI has been leading the way in innovation that can catalyze positive change and transform our world for the better. IRRI Tech Transfer advances the institute's vision by providing products and services and entering into public-private partnerships with companies and organizations that align with IRRI's objectives.

## CONTACT

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IRRI

# ooóo MEMBERSHIPS

#### HYBRID RICE DEVELOPMENT CONSORTIUM

- Upon joining, a "starter kit" of elite material is provided to new members
- Each year: new elite parental lines; new highvalue segregating material for further breeding
- Information sharing on hybrid rice seed markets and product profiles

- A multi-sectoral consortium on hybrid rice research, production of hybrid rice varieties, promotion of innovations including access to new germplasm, and information on hybrid rice technology.
  - User-friendly commercial licensing of IRRI-HRDC hybrids and parental lines
  - Platform for testing members' own elite hybrids in various countries, using IRRI network of stations
  - · Access to high value non-GM traits in elite

#### genetic background

- Early access to new science-based solutions developed by 3rd parties
- Networking with industry peers and decisionmakers during annual meetings
- Visit hrdc.irri.org for more information

#### DIRECT-SEEDED RICE CONSORTIUM

Public-private multi-stakeholder Research for Development (R4D) program that collaborates in the development, scale-up and optimization of innovations, practices, and methodologies for direct seeded rice.

Membership-based consortium that offers a well-organized database of genotyping, phenotyping, expression,

and other available information on rice germplasm for the global research and breeding community

- Provides a comprehensive approach for partnership, encompassing several technologies like germplasm screening, seed treatment, weed control, micro-irrigation, machinery, application of precision agriculture tools like drones, etc.
- Privileged access to IRRI elite genetic material bred for direct seeding conditions
- Three different nurseries shared each year, and each nursery comprises 20 lines
- Information sharing on direct seeded rice markets
- Early access to new science-based solutions developed by 3rd parties
- Advocacy and policy support in disseminating direct seeded rice practices in various countries with the help of NARES members
- Visit dsrc.irri.org for more information

### INTERNATIONAL RICE INFORMATICS CONSORTIUM

- Access information and computational tools to facilitate rice improvement via discovery of new gene-trait associations and accelerated breeding
- User-friendly access to browse, search, and analyze data through a single portal.
- Privileged access to new datasets, tools, and features
- Visit iric.irri.org for more information

NETWORK OF ACCELERATED RICE VARIETIES FOR IMPACT	global research and breeding community	
<ul> <li>Partnership program for testing new IRRI elite inbred rice, and use for breeding, in various countries.</li> </ul>	<ul> <li>New IRRI elite inbred lines are provided each year to members</li> <li>Members receive three different trial kits each year; each trial kit comprises 20 elite lines</li> </ul>	<ul> <li>User-friendly commercial licensing of elite varieties NARVI guidelines available for more information</li> </ul>
THERMOSENSITIVE GENETIC MALE STERILITY STUDY GROUP       Partnership program for testing new IRRI elite inbred rice, and use for breeding, in various countries.		
<ul> <li>Platform for development of two-line rice hybrid technology, based on IRRI-proprietary TGMS female lines with better suited critical temperatures (&lt; 24oC)</li> </ul>	<ul> <li>Deliverables include female lines, male lines and hybrids for testing and licensing</li> </ul>	• TGMS study group guidelines available under NDA for more information
PARTNERSHIPS IRRIGATED BREEDING PROGRAM - GENOMIC SELECTION BA		nership for fast track breeding of elite inbreds omic selection.
<ul> <li>Access to elite material and expertise.</li> <li>Access to estimation sets every year, comprising more than 300 lines.</li> </ul>	<ul> <li>Sets of the lines selected based on advanced genomic selection tools from IRRI's irrigated core germplasm every year</li> </ul>	<ul> <li>Germplasm is potentially useful for both hybrid and varietal rice programs</li> <li>More details can be provided based on interest</li> </ul>

#### **HEALTHIER RICE PROGRAM**

Opportunity for private sector partners to collaborate with IRRI on its biofortified rice program.

IRRI has developed various digital tools, databases, and technology solutions for rice researchers, agro-suppliers, and farmers which are available for bilateral collaboration on a non-exclusive basis.

Membership-based consortium that offers a well-organized database of genotyping, phenotyping, expression, and other available information on rice germplasm for the

- · IRRI developed iron and zinc enriched rice lines through conventional and advanced breeding approaches. These traits are present in commercial inbred lines.
- Low-glycaemic index rice lines with acceptable textural preference were identified from IRRI germplasm analysis, and these traits are
- available for introgression into any other amenable lines depending upon consumer preferences.

### DIGITAL TECHNOLOGY SOLUTIONS

 Technologies include Rice Crop Manager for site-specific nutrient management; AutoMon for sustainable water management; EasyHarvest for smart linkages between farmers and combine harvester service

providers; ORYZA, a crop modelling tool under prevailing agronomic practices; CommCare for collecting agronomic and and abiotic stress management; SeedCast for streamlining the demand and supply of rice

varieties; and Rice Knowledge Bank which provides data on rice crop production and management

 Visit irri.org/resources-and-tools/digital-tools for more information

#### **CONSULTING & PARTNERSHIPS**

#### As a technical partner, IRRI collaborates with private companies already active in the rice sector or planning to diversify in the rice sector.

- Based on the needs of the company, IRRI offers technical support and capacity development: access to elite germplasm, development of an in-house rice breeding capacity, training in agronomy best practices, advanced breeding, genomic selection etc.
- For companies developing new products and services relevant to the rice value chain, IRRI offers a unique platform for delivering a credible, science-based, proof of concept (POC), allowing fast track market introduction for the benefit of the rice value chain

#### FRAMEWORK AGREEMENT / STRUCTURAL PARTNERSHIPS

#### Opportunity for IRRI and partners to establish a broader multi-year partnership.

- A collaboration setup with the chance to sponsor/work with IRRI on a set of research projects for mutual advantage.
- Partners can choose from a selection of projects that can be customized to suit their requirements.
- Partners gains limited exclusive access on the deliverables of the project for a certain time, which can also be shared with third-party partners as per the mutually accepted terms and conditions

#### STRUCTURAL PARTNERSHIPS

# Bilateral partnership for fast track breeding of elite inbreds based on genomic selection.

Service for partners that wish to characterize, understand and improve their

existing germplasm in terms of Grain Quality attributes, leading to improved rice grain quality.

- Access to elite material and expertise.
  Access to estimation sets every year, comprising more than 300 lines.
- Sets of the lines selected based on advanced genomic selection tools from IRRI's irrigated core germplasm every year
- Germplasm is potentially useful for both hybrid and varietal rice programs
- More details can be provided based on interest

## SERVICES

#### GRAIN QUALITY & PRODUCT DEVELOPMENT

- Provides a wide selection of grain quality analytical services for pre-breeding lines and hybrids
- Analysis of germplasm with advanced genetic markers for grain quality
- Opportunity for collaboration on development of rice-based products for the retail sector
- Details can be provided under NDA

#### **CONSULTING & PARTNERSHIPS**

#### Efficient and precise introduction of non-GM traits into a breeding program.

- Recombinant selection on both sides of the target trait, producing high quality introgressions with reduced risk of linkage drag and minimal disruption
- Coupling-phase linkages with surrounding genes, and pyramids with genes of similar effect. These coupled linkages and pyramids improve the stability of expression
- Current offerings and details available upon request

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